

NEBULA

ACME

SCIENCE FICTION

MONTHLY

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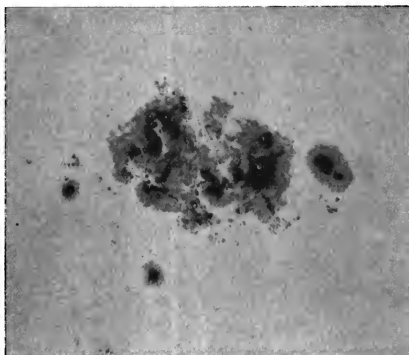
NUMBER 38



Eddie

FOR READING THAT'S DIFFERENT

THE NEAREST STAR



The Solar Surface, showing Sunspots (Mt. Wilson and Mt. Palomar Observatories)

A. E. ROY, B.Sc., Ph.D., F.R.A.S., F.B.I.S.

The star we see throughout the day and upon which our lives depend is the hot self-luminous orb we call the Sun. It is 864,000 miles in diameter and 332,000 times as massive as the Earth, while 1,300,000 Earths could be stowed away under its surface if it were a hollow globe. Although the Sun is only an average star, its relative nearness makes it more important to us than any other star. If it were modelled as a ball one foot in diameter, the Earth would be about 100 feet away but the nearest star to it would be 6,000 miles away.

The ancient Chinese were aware that the Sun's surface is sometimes spotted and Western astronomers have long sought a satisfactory explanation of sunspots, those relatively darker, cooler, whirlpool-like regions that increase and decrease in number every eleven years or so. By observing the paths of spots across the Sun's disc, two pieces of information are obtained, namely, the rotational period of the Sun on its axis—about $25\frac{1}{2}$ days—and the fact

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NEBULA

SCIENCE FICTION

Edited by **PETER HAMILTON**

Number **Thirty-Eight**

ALL NEW STORIES

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Look here

Many of you will probably have noticed by now that the "Bob Madle Column" scheduled to commence in the current issue of our magazine has, unfortunately, failed to make its appearance. The reason for this disappointing omission is that on a thorough examination of the first article in this new regular series, I came to the conclusion that it contained some very important statements which I preferred to discuss fully with its author, before proceeding to print it. As Bob lives at least 3,000 miles from the office in which I am writing this editorial, these discussions took a considerable time to complete in a mutually satisfactory manner.

The next point which required attention (and took up time) was the preparation of a heading illustration for the column, so that it would be uniform in appearance and layout with "Fanorama", "Scientifilm Previews" and other regular features. This job was put into the hands of capable and popular Arthur Thomson, and an interesting new layout was sent to me almost by return of post (just how many hands has Arthur Thomson?). By this time, however, it was just too late to include the now twice retitled "Bob Madle's American Letter" in NEBULA No. 38 as promised. It will definitely appear in the following issue however, and as I am sure you will appreciate from the foregoing, this short delay has only ensured that our new American gossip and news column will be all the more worth waiting for.

Another innovation which although it has been in the discussion stages for a considerable time is the "Question Spot" featured in this month's letter section. In this department, we hope to deal in a straightforward and easily understandable fashion with scientific questions sent in by the readers of the magazine. This is a brand new service, which will be available regularly in NEBULA, and questions on any scientific subject can be dealt with.

Dr. Archie Roy, Professor of Astronomy at Glasgow University, will be our principal expert in this feature, and he seems to be the ideal man for the job. As an example of his knowledgeable versatility, he quite flabbergasted me the other day by producing detailed information on commerce in the fifteenth century, the Wesley family, poltergeists and tabby cats, all completely without previous warning and in quick succession. "Of course," he reminded me, "most of the questions will be on science, which will be a lot simpler to answer"!

Your questions should be addressed to me, please, and sent to the editorial address as quoted on the contents page of the magazine.

Peter Hamilton

A Race of Madmen

The General was confident of ultimate victory, but he reckoned without the resourcefulness of the natives of Sygma III

Illustrations by Kenneth Barr

To: Supreme Command Headquarters, Duttsturm, Doric III.

From: Patrol Cruiser 2984. Operating in Sector 97/42—38.

Esteemed,

While on routine patrol in the above-mentioned sector, contact was made with an unidentified vessel cruising in said area.

Acting in accordance with the Manual, an interception trajectory was immediately plotted and the N-space motors boosted to a hundred gravities in case of S-space transfer.

Presumably the presence of the Patrol cruiser was immediately detected, for the unidentified vessel vanished into S-space before our lock-pursuit instruments could establish effective contact. A radar-silhouette of intruding vessel attached hereto for identification purposes.

*Signed,
Ze Gunderfoil,
Commanding.*

General Anderpast put the message down on his desk, scowled and picked it up again. Unidentified vessel? What did the fool mean by that? If you had the silhouette, you had an identity, surely? Every space-going race built ships to an identifiable pattern, there wasn't a ship in the Federation——. He turned over the message angrily and stared at the appended silhouette.

"Mother of Infinity!" he said, aloud. He knew the silhouette of every type of ship in the galaxy and this blunt, stumpy projectile resembled none of them.

General Anderpast swallowed. He was a big reddish man with a thick neck, blunt and unimaginative, but the silhouette brought out little bright beads of perspiration on his forehead. An alien? No, no, it just wasn't possible, things like that couldn't happen. It was all very well to speak of crossing from one galaxy to the next, but in reality a hundred billion light years of nothingness were too much of a jump for any ship or life form to take. Also, there were spatial warps and continuum distortions in that untravelled immensity making the journey virtual suicide.

General Anderpast pushed back the frightening thought with an effort of will. Whatever might please the producers of juvenile Dimensional programmes to depict in drama, an inter-galactic visitor was still an impossibility. The vessel had, therefore, come from somewhere within the galaxy—where?

He began to press buttons and bark orders. "Get me Space-Recognition with special emphasis on experimentals." He slid the silhouette into the transmitter and said: "Check this." He scowled again. He *knew* all the experimentals; he authorised them, didn't he?

"Get Shabek of Alien Cultures up here personally and fast——."

"Get Talzib of Security——. Get——."

Slowly the room began to fill with lean, impeccably uniformed experts who, despite rigid discipline and inferiority of rank, managed to convey an aura of smug superiority which Anderpast always found infuriating. He'd wipe the beaming, we-know-it-all expression clean off their faces.

He thrust the message and silhouette into the viewer and snapped on the wall screen.

It was with a certain satisfaction that he watched assurance vanish from the bright faces, slowly to be replaced by consternation and disbelief. Finally he said: "Well?" in an unpleasant voice.

There was a long silence, at the end of it one of the uniformed figures coughed. "Esteemed, would it not be politic to contact the

Commander of the Patrol vessel by sub-radio beam for direct contact? Perhaps some pertinent data have been omitted, perhaps——."

"What's the silhouette?" Anderpast's voice was harsh and faintly accusing but he was not a fool. He gave brief orders for the necessary contact and turned back to his staff. "Well?"

There was silence and a tendency on the part of those present to stand behind those in front of them.

"Attention!" Anderpast's voice almost shook the room and he stared grimly at the resulting line of rigid figures. "Now we'll have some action around here. In case you bright experts haven't realised it, this is a crisis."

It was. The communicator purred softly at his elbow and a frightened voice said, shakily: "Esteemed, Patrol Cruiser 2984 does not reply; further, there is no sonic response."

General Anderpast felt the warmth of his momentary minor triumph drain from his system. It was replaced by something cold and muscle-tightening which seemed to creep up from his stomach. If there was no sonic response, the Patrol Cruiser wasn't there—it wasn't anywhere, something had washed it clean out of space. He felt sweat crawl down his face, but was too tense to wipe it away. A sector Patrol Cruiser was the fastest and deadliest thing in the Federation. Fitted with negation cannon of almost unlimited range, and the new Trembler projectors which could disrupt any conceivable form of defence screen, a cruiser could almost destroy a planet. He glanced uneasily at the silhouette; something like that had knocked one of these ships clean out of existence. At the back of his mind, the old, uneasy fear began to grow insidiously. Something had jumped a galaxy.

He pulled himself together quickly. "Get working on that problem," he said, abruptly. "And don't forget, I want results."

He turned away, forgetting them almost at once; his trained mind conscious of the problem as a military operation. He pressed the black mobilisation button, notified propaganda, and detached seven squadrons from Fleet One to patrol the threatened sector. In less than a quarter of a day, the whole Federation would be geared for an all-out war, and every defence post would be alert and ready.

Something, not quite relief but, at least, approaching satisfaction, touched his mind with an illusory suggestion of assurance. If anything had jumped a galaxy, his ships would be ready and waiting.

An officer entered and saluted. "Esteemed, the Department of Cultural Technology thinks, perhaps—that is to say—in view of——."

"Stop stuttering and come to the point. Your department has a theory, presumably it has facts to back that theory, let's hear them."

"Er—yes—Esteemed, the basic structure of the vessel leads us to suppose that it may have come from Sygma III. Of course, Esteemed, the assumption is based purely upon the technopsych——."

"Never mind," cut in Anderpast harshly. He began to press buttons. "Get me Military Archives, tell them I want all relevant data on Sygma III immediately."

Konge, head of the Department of Military Archives, attended the office in person. He was a squat elderly man with bristling grey hair cropped close to his scalp. "Esteemed?"

"It has been suggested that the unidentified spaceship came from Sygma III, can you confirm or deny?"

"I can deny, Esteemed."

The Cultural technology expert scowled, opened his mouth, remembered the General and closed it again hastily.

"On what grounds?" The General was watching him narrowly.

"In brief, Esteemed, to build a spaceship, a race needs metal, and Sygma III has no metal." He paused, then continued, his gruff voice without inflexion and obviously quoting from memory. "Sygma III, inhabited, intelligent humanoid life form, cultural rating 3, technical level 6. Achieved space travel four hundred cycles, galactic standard, but refused admission to the Federation on basis of cultural rating. Attempted expansion beyond the confines imposed by Supreme Council and repeatedly offered resistance to confining patrols. Punitive expedition despatched and salutary procedure executed in the face of fanatical opposition." Konge stopped abruptly.

"And the salutary measures?"

"Bombardment by negation cannon, Esteemed."

The General frowned and nodded slowly. There was no doubt that Konge was right. Bombardment by negation weapons meant that the whole system, apart from its sun, had been subjected to the atomically disrupting effects of the Litz-field. A distorting force which hastened the deterioration of all known metals and the natural ores from which they were derived.

Anderpast glanced quickly and uneasily out of the window at

the fantastic panorama of gleaming girders and window-pierced metal towers which was Duttsturm, Capital City of Doric III. A negation cannon was a weapon which secretly made him uneasy and not a little nervous. A sneak bombardment with such a weapon could bring even this gigantic city to ruins. In four days, rust would be falling like snow, the girders and flying bridges sagging and crumbling. For a moment he tried to think what it must have been like on Sygma III. Cities falling to ruin, ships falling apart in the sky, transport crumbling and failing, with consequent starvation and riots, and even medical instruments becoming brittle and useless in the hands of the merciful.

He dragged his mind hastily away from the mental picture. "Any other measures?"

"Er—yes." Konge's remote smile implied both indifference and contempt. "I believe four or five major population centres were erased as a warning, Esteemed."

"I see." He placed both hands on his desk and frowned at them absently. The race must have reverted to complete barbarism. Obviously the vessel hadn't come from there, but he wasn't pleased by it, almost he was annoyed. The old spectre of the galactic-hopper was rising again at the back of his mind. "Plastics?" he suggested hopefully.

Konge valued his life too much to laugh outright, but the implication was there in the patient way he explained the impossibility. "I doubt it, Esteemed. To create plastics a race needs power and they could not obtain power without conductive materials, some form of generator, also requiring metal, and furnaces to construct these sources in the first place."

"I see, I see." The General made a mental note to look into Konge's record and erase any chances of promotion which might arise. He strongly disliked being laughed at even if it didn't show on the outside. "When did this expedition take place?"

"Minus seventy-five, or by Sygma local time, five hundred cycles. They are, incidentally, Esteemed, a short-living race compared with ourselves."

"Then some Federation participants may still remain alive, an expert possibly?" His expression challenged Konge to say there was not.

"Well, there's Ingeron." Konge hesitated. "A civilian now, Esteemed, but his past is a little dubious. He was deprived of rank and dishonourably discharged for opposing the expedition."

The General's mouth tightened. "You may both return to your

quarters." When they had gone he pressed a button. "Get me the file on an ex-officer called Ingeron who was deprived of rank for expressing opinions contrary to the orders of Supreme Command. Bring the file to me, then pick up the man—oh, yes, and you may have to bring him on a stretcher, he's old." He cut contact and scowled at his desk. I'm trying to fool myself, he thought, I don't really think I'll get anything out of him, but I've got to try. The vision of the intergalactic jump was again assuming alarming proportions in his mind. In another galaxy things might be different, intelligent life might not always go hand in hand with the unvarying humanoid form as it did in this one. That ship, for all he knew, might be full of unpleasant rubbery things writhing with tentacles.

Ingeron, the only surviving expert of the expedition, was a thin, frail little man with the precise careful gestures of the aged. His eyes, however, were bright, humorous and highly intelligent. "Yes, Esteemed, I was an intelligence agent prior to the assault. I lived on their planet, as one of them, for fifteen of their cycles."

"Bluntly, you were spying?"

Ingeron smiled sadly. "Yes, I suppose that is correct but they called it a psycho-survey."

"I see." The General was watching him narrowly. Ingeron had lived more than eighty cycles and was, therefore, entitled to respect despite his past. Anderpast chose his words carefully. "What personal reasons caused you to question the orders of your commanding officer?"

Ingeron raised thin eyebrows. "I never met Commander Vegnit personally, my objections were based purely on principle. The campaign should never have been undertaken, it was the biggest blunder in Federation history." He paused. "You brought me here to ask me that?"

Anderpast shook his head. "No. I'll come to the reason for your visit later. Why was it a blunder?"

Ingeron shrugged. "Cultural assessments are based on generalities and behaviour patterns. In the case of Sygma III, generalities are misleading, behaviour patterns impossible."

"Impossible!" It was the General's turn to raise his eyebrows. "All intelligent races can be predicted to take certain actions in given circumstances."

"All except the natives of Sygma III," said Ingeron.

"Come, surely you are imagining, after such a lapse of time. . ."

Ingeron smiled sadly. "Esteemed, I was dishonourably

discharged for making these same statements, I should remember." He paused. "Do you know how these people got into space, Esteemed? I'll tell you—in rockets."

"Rockets!" The general felt his neck beginning to swell. Was this man hiding behind his age to laugh at him, or was senility

"You will find everything in the museum of Alien Cultures," said Ingeron, quietly. "There are blueprints, specifications, everything. These people did what no other race in the galaxy has ever done, they conquered space in rockets."

"But—but—" Anderpast was spluttering angrily. "They must have developed some form of compensator or gravity motor first."

"No, Esteemed, no." Ingeron raised a thin pale hand in polite denial. "They built a missile, filled it full of chemical fuel, put a man in the control chamber and fired it into space *without* a gravity motor. In point of fact, the culture did not develop an efficient gravity motor until their satellite and two of the nearer planets had been reached by rocket-vessels."

The General said, thickly: "What are these people—a race of madmen?"

Ingeron considered the question. "Mad or divinely courageous? The men who manned those ships were all volunteers."

Rockets! The General tried to visualise a race insane enough to challenge space in rockets and he somehow failed. Every race in the galaxy had developed some sort of gravity motor *first*. "It's insane," he said. "Actions like that, as reckless, are without parallel, completely unpredictable."

Ingeron said: "Precisely," in a meaningful voice. "That is why psycho-tapes of behaviour patterns were never attempted. It is why I opposed the expedition." He stopped.

General Anderpast nodded, still trying to imagine a race so completely out of touch with reality that they had blown themselves into space on rockets. An uncomfortable thought struck with a backlash of frightening and inescapable logic. *Insane or not, they'd conquered space hadn't they?*

Anderpast shook himself irritably and lifted the message from his desk. "You are an ex-officer and may be relied upon to keep this secret."

Ingeron glanced briefly at the message then studied the silhouette. "You suspect that this ship may have come from Sygma III?"

"We are making routine checks of every possibility."

Ingeron studied the silhouette again. "Yes," he said, thoughtfully. "Yes, the design of the vessel is typical. I don't know another race who would build a ship equally at home in two elements is that the right word? These people like ships capable of effective action both in space and in an atmosphere."

Anderpast opened his mouth to snort derisively. Who ever heard of a ship designed——? The snort never materialised. If the race had soared into space on rockets, a two element ship was an obvious development. "They've no metal," he said. "It can't be from Sygma III, can it?"

Ingeron shrugged, almost imperceptibly. "I would be the last to dispute the point, however, nothing is impossible especially to Terrans."

"Terrans?"

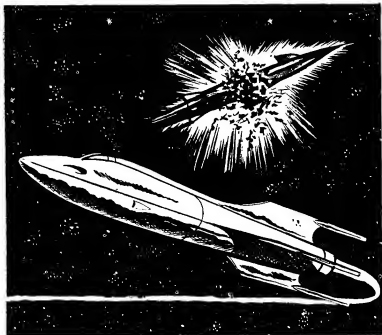
"Your pardon, Esteemed, old memories, you understand. The natives of Sygma III call their planet Terra or Earth."

The General shrugged it off. Who cared what they called their damned planet. The point was, having no metal, how had they built a ship? Even if one accepted the fact that they had re-mastered atomic engineering, they would still need metal as a basis with which to experiment. He frowned, debating, then he flicked a switch. "Detach three squadrons for possible punitive survey of Sygma III immediately."

Days passed, days in which an accumulation of reports spilled over the edge of the General's desk and fell to the floor. Reports which indicated the impossible—the vessel *had* come from Sygma III.

The seven squadrons patrolling the sector where the unidentified vessel first appeared reported the sudden appearance from sub-space of four vessels of a similar type. These had launched an avalanche of homing missiles in an incredibly short space of time and vanished again into sub-space before effective measures could be taken to deal with them.

Following, and more comprehensive, reports were alarming. Due to the construction of the enemy vessels, automatic trackers, locking instruments and fire control points lost sixty-five per cent. of their effectiveness. Instruments were designed to react to metal, or metal-based ferro-plastics and the enemy ships were constructed of neither. The same applied to the hail of missiles, in four cases, force screens had snapped on a fraction too late. Three cruisers had been totally destroyed and one so badly damaged that salvage was impossible.



Of the squadrons sent to investigate Sygma III, there had been no reports, but sonic contact had ceased abruptly.

Anderpast was now sweating from habit. He conscripted Ingeron, despite his age, as an immediate adviser and restored his rank, then he returned to his desk to await reports.

Four days later a huge concentration of ships appeared in sector 195 apparently massing for a thrust towards the Atsdine Cluster. Anderpast detached eighteen squadrons to meet the threat and the concentration disappeared into sub-space. It reappeared later, larger this time, heading toward the Solgarth system. A further eighteen squadrons rushed to counter the threat and found the sector empty. The enemy had reappeared near the Aix system.

Irritably Anderpast ordered the remaining twenty-seven squadrons to intercept and destroy. It was only when the order had been transmitted that he realised he had broken up the immense First Fleet into comparatively ineffective fragments. The order to regroup came too late. The squadron despatched to sector 195 was caught as it was preparing to enter sub-space for return and a ship cannot enter sub-space with its defence screen erected. The immense vessels found themselves suddenly surrounded by a numerically superior enemy with fast and incredibly manoeuvrable vessels which

immediately attacked with a terrifying disregard for the logical rules of survival.

It was two days before Anderpast received the news that only five squadrons had survived the assault. Thirteen squadrons had been totally destroyed for the confirmed loss of only eight enemy ships. Before he had time to absorb the shock, frantic signals from the second expedition announced a similar assault.

With an effort Anderpast kept his head, but the shock of the enemy's success was numbing. It was incredible that a class three culture could chop a whole Federation fleet to pieces. What other culture, he asked himself, would follow such an unorthodox and unpredictable pattern of warfare? He forced himself to consider the matter detachedly. The outcome, of course, was obvious, in terms of resources alone the Federation would win. Four hundred and ninety-seven worlds were odds against which no single system could survive for long.

Anderpast nodded to himself, feeling calmer. It was annoying but, from the broad view, a minor campaign—a native uprising with a few initial successes in favour of the insurgents.

The next reports did not undermine his conviction of eventual victory but it placed its achievement a good deal farther away.

The enemy attacked Vilqua IV. With an incredible disregard for danger, the enemy brought his ships out of sub-space on the very fringes of the planet's atmosphere. There were only ten ships and the orbiting, heavily armed space stations were unaware of their presence until frantic signals from the ground alerted them to the menace which had appeared *beneath* them.

The enemy ships didn't exactly blow the planet to pieces, but there was little left of a once habitable world when they had finished. Great geysers of debris spouted upwards in columns of eye-searing fire which almost reached space itself.

Vilqua IV had been a fuelling base for the Second Fleet. Astrak, the second continent of the planet, had contained nothing but mountains of stores, repair shops and the immense landing grids needed for landing city-sized vessels on power beams. When the dust of the attack cleared, the second continent had become a series of minor islands around which a grubby, cinder-strewn ocean rolled heavily and listlessly.

Anderpast felt the effects of the attack like a physical blow. For all practical purposes the Second Fleet was immobilised for an indefinite period. He felt too as if his hands were tied, the immense military computers were hampered not only by lack of data but by

the fact that they had been constructed to predict the moves of logical races. A thrust by enemy Fleet A, for example, could be interpreted, when the disposition of other fleets was known, into an understandable pattern. The whole set-up was then broken down into separate factors, assessed, and passed out of the master computer as probabilities. The number of probable strategic moves were seldom more than five. With the immense fleets at his disposal, Anderpast could have blocked all of them and still kept four fleets in reserve. Unfortunately the computers' only contribution to date had been "Insufficient data" and "Enemy actions illogical, refer to source of information".

Anderpast rubbed his forehead tiredly. Illogical! They were crazy. They struck here, there and everywhere without sense or reason. Some of the reports made him wonder if his commanders were suffering from battle fatigue. For example, seven cruisers escorted by twelve fast combat vessels had intercepted four small enemy ships in sector 283. It was obvious, therefore, even without a computer, that only three probabilities were open to the enemy commander. (1) Surrender; (2) Flight, or assuming the first two impossible; (3) form some sort of defensive formation and fight until destroyed. According to his commanders' report, the enemy had done none of these things. They'd *attacked*.

Anderpast rubbed his eyes and looked again. Yes, they'd actually attacked and not even a ship of similar size and comparable armament, but a cruiser. They'd punched straight through the escort and attacked a ship nearly a hundred times their size. They had been destroyed, of course, but, he wriggled uncomfortably in his chair, so had a cruiser. Nevertheless these Terrans were undoubtedly insane and the commanders of those four vessels would, in the Federation, have been quickly despatched to an anti-psychosis institute. What intelligent life form would attack without first weighing the likelihood of survival?

He dragged his mind away from the unpleasant implications aroused by this line of reasoning and pressed a button angrily. "Tell physio-laboratories I'm still waiting for a report on that fragment of enemy vessel."

"We are still experimenting, Esteemed." The voice sounded frightened.

"You've had three days in which to experiment." The General realised he was literally snarling, but was no longer able to control himself. "I want a full report in my office immediately."

A very young laboratory lieutenant arrived almost at once. He

held a blackened fragment of material which he laid carefully on the General's desk. "A fragment of enemy vessel, Esteemed." He was trembling visibly. It was obvious that he had been sent by his superiors to bear the brunt of the Supreme Commander's wrath.

Anderpast realised this but was too overwrought to make allowances. "Well," he snarled. "What is it?"

The lieutenant backed slightly. "Wood, Esteemed." The voice was a croak.

"Wood!" The General's voice was an explosion. "Are you insane?"

"No, Esteemed, no—I swear it—I—we—the department—have tried every possible test."

"Are you daring to imply," the General's voice had become frighteningly controlled, "that the enemy is attacking us in wooden spaceships?"

The lieutenant made frightened strangled noises. "Plant genetics, Esteemed, natural growth, hardened by genetic alteration to incredible density. It is harder than any metal we possess."

"And it's wood?" The General was suddenly aware of the lieutenant's obvious sincerity and the almost fantastic realisation that it might be true. No wonder automatic equipment was slow to react, no wonder his fleets found it impossible to track these vessels, as was usually possible, through sub-space. "And it's our fault," he thought aloud, "we destroyed their metal supplies. They pop up suddenly from sub-space like under-sea vessels surfacing and we can't do a thing about it."

The lieutenant, realising that the storm was not to break, offered further information. "The electricity conductives are liquid chemical, Esteemed, we haven't broken it down yet but——"

"Get out of here." The General didn't put his head in his hands until after the lieutenant had gone.

It took some time for him to recover and to force his mind away from the terrifying genius of a culture, classed as stage three, who had turned their ingenuity to the natural resources of their planet and, by artificially stimulated vegetable growth, had produced a substance tougher than metal.

Troubles began to pile up, confusing report upon confusing report. To make matters worse, the enemy had discovered not only how to tap Federation communicator bands, but to insinuate messages of their own. Space became alive with confusing and contradictory orders whose point of origin was dubious. Commanders

hesitated to obey directives, uncertain if they originated from Supreme Headquarters or Terran Intelligence. Changes of code brought only temporary respite, the Terrans broke each carefully conceived code down and started again. On the other hand, random snatches of enemy communications, they operated on incredibly high-frequency beams, produced only gibberish. The immense laboratories with their soaring banks of computers spent three days on the problem, then confessed themselves beaten.

Anderpast almost burned out his communicator. "Mother of Infinity, it's a military axiom, there's no such thing as an unbreakable code." He banged his clenched fist angrily on the desk. "Do you hear me? There's no such thing as an unbreakable code."

He sent for Ingeron. "Are there some extinct languages on Terra which they might use in their communicator beams? The translator is working perfectly but the results are gibberish—listen." He flicked a switch.

"Some of these infants," said the translator tonelessly, "are certainly inarticulate. This one, without doubt, is a reclining waterfowl."

Ingeron looked puzzled. "May I hear the original Terran, Esteemed?"

As you wish." Anderpast pressed another switch.

Ingeron listened to the excited Terran voice and turned his face carefully from the Supreme Commander. It took him some little time to compose his lips which had been twitching uncontrollably. He turned, his face at last composed. "That is not a code, Esteemed, it is normal Terran. The speaker is remarking on the slow reaction of one of our vessels and the easy target it presents." He heard in his mind again the toneless voice of the translator. "*Some of these infants are inarticulate* ." The Terran voice had actually said, excitedly: "Some of these babies are dumb, this one sure is a sitting duck."

Ingeron turned his face away but fortunately the General did not notice. "Are you daring to mock me, venerable Ingeron? We have thousands of tapes of pure recorded Terran; on them is the language they speak according to their own crudely printed dictionaries."

It took Ingeron a long time to explain and when he had finished, Anderpast was holding his head in hands. "Slang, idioms," he said helplessly. "They have one language and they corrupt it and speak another, obviously they are mad, quite mad."



Exactly twelve days later, the madmen attacked Doric III itself. The first and only warning was a detonation which seemed to shake the planet to its foundations and set the metal buildings humming like tuning forks. The detonations became a rolling thunder which stunned and numbed the inhabitants into a dazed lethargy.

A major, his face colourless and his eyes dilated with disbelief, reeled drunkenly into the command room. "These crazy fools are bringing their ships out of sub-space into the atmosphere."

The General brushed him aside with a sweep of his arm. "Report to Anti-psychosis; you, yourself, are obviously insane." He strode to the window and stared upwards. As he watched, high above the city, there was a livid blue-green flash and, seconds later, there was an ear-numbing detonation and the metal floor shivered beneath his feet.

Anderpast turned heavily away, there was no mistaking that flash. He had seen it happen once in his early training days when a ship's computer had failed and an over-eager spatial navigator had relied on a slide rule and his own brain. The resulting error was infinitesimal but it was enough; the ship had come out of sub-space one-tenth of a light year from the correct transfer point—it had

come out of sub-space inside a planet's atmosphere with a precisely similar flash. If the margin of error had been greater, the ship might have come out inside the planet itself and the resulting eruption would have been like a cosmic bomb.

The General stiffened, these madmen were risking an incredible number of ships in an insane and reckless gamble. He turned to Ingeron who had joined him almost unnoticed. "This is insane, they could have lost their whole attacking fleet, the slightest error——"

Ingeron made a vaguely helpless gesture. "I expect they call it a calculated risk, Esteemed."

Anderpast stared at him without comprehension, was everyone mad? A calculated risk was understandable, but every logical race in the galaxy worked to a comprehensible system by which the risk was assessed by years of careful experiment to reduce the hazards. When the risks had been reduced to ten per cent., it was considered within reason to proceed, but never before. To come out of sub-space, as these Terrans were doing, on the fringe of the atmosphere was the most suicidal exhibition he had ever. A thought struck with almost the same stunning detonation as the arriving ships—*they were getting here, weren't they?* They'd by-passed the immense encircling curtain of the Third Fleet and the projector screens of the space stations.

Ingeron's voice interrupted his frightening train of thought. "I think, Esteemed, you should look up again."

Anderpast looked, from high in the sky black specks were drifting slowly downwards. Colour drained from his face but his back stiffened almost unconsciously. He shrugged. "Well, Venerable, I suppose we must prepare to die."

Ingeron shook his head. "I think not, Esteemed, they are dropping troops not cosmic bombs."

"Troops!" Anderpast switched on the magnifying unit and stared unbelievably. Men! The black specks were men, the bulge of gravity packs clearly visible on their shoulders. "They are mad, I have said so all along. They are dropping, perhaps, ten thousand men and against them I can throw forty thousand warrior robots. A call to reserve barracks of the Second Fleet will bring two million trained combat troops into the city to oppose them."

Ingeron said, in a far-away voice. "What kind of combat troops?"

"And what do you mean by that question?" Anderpast thrust his face angrily towards the older man.

Ingeron's wrinkled face remained expressionless. "My Esteemed, they are the combat troops of a space fleet, they know ship drill, fire control, war procedure, but what do they know of ground combat?"

Anderpast felt himself pale. The answer was, of course, nothing. The Federation had fought in space so long that all their information on ground combat was but crumbling dust in the Military Archives.

"As for your robots," Ingeron was saying, "they were designed to terrorise class one cultures on primitive planets." He sighed and glanced upwards at the slowly descending figures. "The Terrans excel in this kind of warfare, their history is full of such ventures as this, assaults, airborne landings, street fighting."

"But what do they hope to gain?" The General was on the verge of confessing he was losing his grip.

Ingeron made a tired gesture. "Have we not a saying, that he who controls the brain directs the movements of the body?"

Anderpast got the point. Such an audacious and unorthodox scheme had never even occurred to him. He was shocked, even hurt. It just wasn't fair. What logical people would even consider trying to destroy or capture a supreme headquarters without first defeating the forces it controlled? His reaction, however, was swift. He ringed his headquarters with warrior robots and flew in fleet reserves by every available means of transport. Before the first Terran soldier had landed, surrounding buildings were already occupied by armed troops.

Reports began to come in from the outskirts of the city, and acting on them, he switched on the now seldom-used tele-rays and saw his first Terran soldier. He was a tall rangy man in a sloppy looking uniform and a tight round helmet. The General noticed, with sudden alarm, that the sloppy-looking uniform had a disquieting property of blending its wearer with his surroundings.

He increased magnification. A white, smoking cylinder dangled from the corner of the man's mouth and he slouched in a most unmilitary manner. Nevertheless, the man was obviously alert, his eyes were never still and he carried a blunt strangely designed weapon as if it were part of him. The General watched him choose a vantage point among the metal girders of a signal tower and then he lost him. That damn uniform was just a bit too good.

Reports began to come in and it soon became apparent that the Terrans were quickly gaining the upper hand. It was not a battle, it was a massacre. Large bodies of troops, rushing in to relieve the city, walked into murderous cross fire at intersections and were

slaughtered to a man. Other groups, believing themselves outnumbered, behaved like logical people, they threw down their arms and surrendered.

And the Terrans' methods! They eliminated whole buildings of trained troops by the simple process of tossing concussion explosives in front of them as they went. They lay on the ground like children and calmly rolled explosives under the tracks of attacking robots. To the General, their genius for improvisation was appalling. If no explosives were available, they dropped from windows or girders on to the tops of the robots and clubbed their search-antennæ with the butts of their weapons, rendering the robots useless. They swarmed up buildings, lashed themselves to girders and there, almost invisible, could direct a murderous fire into the streets below.

Above, their two-element ships were clawing air transport out of the sky at an incredible rate.

What incurable imbecile, the General asked himself, had rated this culture as class three?

He became aware that the battle was drawing closer, the unnerving clatter of Terran weapons was already audible in the Command Room.

The door slid open suddenly and Konge, from Military Archives, rushed in. He was panting and obviously demoralised. "We must escape, Esteemed, the enemy have gained entrance to the sub-level freightways, they are entering the building from beneath—Mother of Infinity!" Konge turned suddenly and raised the standard Cytron pistol to his shoulder. He never fired it. There was a dull thunking sound and Konge fell backwards clawing weakly at the air.

Anderpast stared. Konge's dying hands closed slowly round something which protruded from his chest. It wasn't metal but it was obviously a knife. The Terran had actually *thrown* a knife, thrown it *accurately*. Was there any weapon they couldn't use?

He was still staring when the enemy soldiers burst into the room and a tall brown faced man strode to his desk. "General Anderpast, Supreme Commander?" He spoke galacta-lingua with an atrocious rasping accent.

"You know my name?" It was a stupid remark but the General was too dazed to realise it.

"We should do, we've been tapping your communicator bands for thirty years." He straightened. "The city is now in my hands, I must ask your complete surrender together with all forces and fleets under your command pending armistice agreements."

The General sat down and gave the necessary orders. He was not

only a logical man, he had no choice. There were certain buttons in that room which had been placed there in case ships fell into alien hands, those buttons could blow every fleet in the galaxy to pieces.

The Terran stood still for some seconds and the General nodded briefly. He was not without courage, very slowly he began to unbutton his tunic.

"You are hot?" inquired the Terran, politely.

"I am not hot, I am preparing myself for honourable execution at the hands of the victor."

The other's mouth fell open: "What are you people—savages? The people of Earth do not kill helpless prisoners unless they are proved guilty of atrocities."

The General sank back weakly into his chair. "I thought——."

"The poor old bird seems all in," said one of the Terrans in his own tongue.

The translator which had been left switched on picked up the words. "The impoverished old fowl appears submerged," it remarked inanely.

The General still sat, long after formalities were completed, staring before him. The Terrans had been more than correct in their treatment of him, in fact they had been consideration itself. They had even left him some of their liquor. It was a ferocious, unsubtle concoction which clawed his throat and brought tears to his eyes but it was comforting. Curiously it seemed to sharpen his mind and brought all things into perspective. Doric III was finished forever as a galactic key-point, a new force had come into the galaxy which would temper and strengthen it. The gradual inertia which had slowly and insidiously affected the Federation worlds would be wiped away forever. The Terrans would be leaven to a vast and static people and, there was no doubt, under this new and virile influence, the galaxy would no longer contain them. If anyone could jump a galaxy, it would be the Terrans; they would be the only race mad enough to try.

The General was suddenly afflicted with self-pity. No matter how long the scientists spoke in hushed tones of the *ingenuity* of race which had used plant genetics to compensate for its lack of metal, and no matter how kind the military historians were when they came to assess his defeat in the light of knowledge, one thought would live with him until the day he died. He, General Di Anderpast, Supreme Commander of the Federation Armed Forces, had been defeated by a race of madmen in a fleet of wooden space-ships.

PHILIP E. HIGH

The Arm

Try as she might, it was impossible even partially to escape from the terrible surroundings in which she found herself

At the last moment, as he was about to leave the front door, Royse lost her dignity and clung to him weeping.

"Oh, please don't leave me, I beg you, Wilfred, don't leave me."

"It's only for a week, darling," he said, torn between sympathy and exasperation; they had been through all this last night.

"Weeks here have nine days in them!"

"I'll be back," he said, and then he was gone, moving hastily over to the monostop, where a bullet was already preparing to leave. Helplessly, Royse turned back into her house and closed the door. She could not bear to wait and wave to him.

Her tears dried on her face; no more fell. A month—a long Tachatale month—had to be faced alone, except for the four brief week-ends in which Wilfred would be back. Wilfred's post as governmental neostatistician had so far kept him in Touchdown, the nearby capital of the planet Tachatale. Now he had been ordered out to Big Mines, the new townstead half a world away.

"He could have taken me with him," Royse said to the empty hall. It was untrue. She knew it was untrue. Transport and accommodation were everywhere scarce: nobody travelled unless forced to do so on a planet struggling to become self-sufficient.

Wilfred loved his wife; he did not wish to go to Big Mines; he would have taken her had it been humanly possible.

"All the same, he will not appreciate how much I loathe Tachatale." She walked into the living room, talking to herself, consoling herself. This was a new habit.

The house, like almost every other house on the planet, was prefabricated and single storey. It was divided roughly into three: kitchen-hall, living room, bedroom and other offices; concertina doors allowed for slight variations in this basic plan. In the living room was a long window. Instinctively, Royse was drawn to it.

"My God, what a place to end up in!" Royse sighed. The front door faced other houses, only the monotrack dividing them; this back window faced out onto Tachatale, primitive and unaltered Tachatale. No sign of human habitation existed beyond a pile of clayey rubble just outside the window. Royse's was the last house in the long line of houses stretching out of Touchdown.

She began to sniff again.

"Why not get to know your neighbours?" Wilfred had suggested rather curtly the evening before, when the subject of his departure had arisen. It was not a helpful suggestion. In the next house lived a Mr. and Mrs. A'Alhoorn; Royse had met Mrs. A'Alhoorn once in the three months they had been on Tachatale. Beyond gathering that the woman worked in the capital like her husband, Royse could glean little from their conversation. The A'Alhoorns came not from Earth but from Parker's Planet, and their accent was all but incomprehensible.

Experimentally—more for the purpose of testing how lonely she felt in the house than for any other reason—Royse unlocked the long window and stepped outside. She took a few paces from the house. Now she could see all the other houses, the backs of them stretching unbroken along the monorail towards Touchdown. But they formed only a slender peninsula pointing out into the vast unknown of Tachatale.

Though she hated the ugly houses, it was the planet she feared.

The terrain rose behind the houses to a low peak some four hundred yards away. The peak was crowned by trees with strange corkscrew branches. Away on her right, away from Touchdown, grass yielded to desolate moorland. Where moor met sky a group of black and purple hills gathered like sores on a withered skin.

Shivering, Royse returned indoors.

Somehow she wasted the day. In the evening she tuned in to the local station. The programme now lasted an hour every day, with

promise of extensions as soon as circumstances permitted. Every offering was the crudest possible, truncated vision tapes made long ago in defunct studios on the Seven Planets. The only live bit of broadcasting came at the end, in a five minute peroration from Touchdown. This was considered a fitting end to most evening's entertainment.

"Tachatale grows every day," the announcer declared. "Another four hundred colonists arrived from Alpha today. Welcome, friends! We are all united here on Tachatale, and we welcome you. Ten years ago, Tachatale was undiscovered. Ten years more, and she will stand out as the greatest——"

Royse cut him off in full spate and went to bed.

Next morning, the personal circuit of her vision set flashed her a letter. Royse took it excitedly out of its slot, examining with love the radio-facsimile of Earth stamps and Richmond postmark. It was from her mother.

Mother, however, was less consoling than usual. She wrote

"Your letters begin to worry me, my dear. If you love Wilfred, you should be happy doing what he wants you to do. You are not giving him or yourself a chance. Nor are you giving your beautiful new planet a chance. (Remember, your father and I have seen solids of Tachatale.) Why don't you try to go out a little more? Of course I understand that to a girl of your quiet disposition Touchdown itself may seem rough and even vulgar (although you must not be too critical), but why not explore the country? Go out for walks and forget yourself. You will remember how fond your Uncle Ernest was of botany."

Putting the flimsy down, Royse busied herself about the house. As she worked, the implications of the letter seemed to ferment within her. She hated to think her mother might be in some measure right; for the first time in weeks she recalled how, on the colonist ship coming out, she had regarded the whole business as a romantic adventure. The raw reality of Touchdown, with its giant factories and brothels, had been a shock.

She considered the suggestion that she should go for a walk. The idea repelled her, until she looked into the future and saw her days forever circumscribed and herself forever boxed into this characterless house. In a panic Royse came to that point that all must reach at some time: the point where it is recognised that life is not expanding limitlessly any more but dwindling already, its

promise spent. Dropping a metal tray, she ran out of the back of the house.

"Oh mother, it's a ghastly place!" she said aloud ten minutes later.

From her vantage point among the corkscrew trees she could see all round. Behind her lay the incongruous strip of houses, following the contours of the land into Touchdown; it occurred to Royse now that she had never seen anyone leave those houses to explore the country.

The country spread all round her, ample and unending and enduring, full of an oppressive silence emphasised by the perpetual blanket of cloud overhead. Resigning herself to it all, Royse ran down the other side of the peak. Immediately, the houses were hidden and it seemed as if she had the whole planet to herself.

The blackness of a wide swathe of land ahead was caused by a close-growing clover, she found. The unshining sootiness of the leaves intrigued her. Wandering on, no longer so scared, she came to a stream. Though narrow, it was surprisingly deep, its weedless sides streaked with curious yellow bands of rock. Royse lay under a tasselled tree and gazed into the water. It was as clear as glass. She remained there a long time, happy, remembering her childhood by other little rivers.

On the next day she went there again. The creature appeared when she had only just arrived.

Like the river bed, it was striped black and yellow. It roughly resembled a terrestrial lobster although it was no more than four centimetres long. One minute Royse was alone and peaceful, the next the little lobster was scuttling over her bare left arm.

She screamed.

Leaping to her feet, she attempted to knock the creature off. It dug in its sharp feet and clung tightly. Its little jointed tail flicked over its head, nipping her hard.

"I'm stung!" she cried, blindly chopping at the creature. It fell away onto the ground, stomach upwards. One of its pincers remained embedded in Royse's lower arm.

She was full of all those fears habitual city-dwellers experience when touched by strange insect life. Groaning, hardly seeing, she stamped frantically about her until nothing was left of the frail body under her feet. Then she turned and ran home.

Once indoors, her arm plunged under a cold jet, new terrors seized her. She felt breathless and weak, inclined to faint; the arm

seemed to pain her. The notion that she was now filled with deadly poison took her, and from then on she was lost.

With a vision of herself dying in agony on the floor, Royse grabbed up a bread cutter. She flinched—then brought it rapidly across her arm, over the centre of a small puffy patch which had appeared. The cut gaped, turned red. Blood started to flow into the sink and over the floor. Whimpering, she applied her mouth to the wound and began, with memories of tales of snake bite, to suck at the place.

At last, exhausted, nauseated, she flopped into a chair, wrapping a towel round the gash.

Faintness overcame her again. Her stomach quaked, specks floated before her eyes. She sat there limply, sure she was going to die. When she opened her eyes again she saw that her rough bandage had turned red. Blood was soaking into the chair.

Royse was immediately convinced she was dying from loss of blood. Rummaging messily in a drawer, she found another towel, tore a long strip off it, and bound a tourniquet tightly above her elbow. As she tied the last knot, she slipped in blood and fell over. In a weak rage she threw the contents of the drawer across the room before subsiding into tears. After that storm was over, she fell asleep with her face in the rug.

She woke and it was dark. She was cold; her injured left arm was numb. Glancing at the Earth/Tachatale chronometer (a parting present from Mother) she saw she had been insensible for over eight hours. Although her head was again clear, her whole being seemed to lack cohesion.

Miserably she climbed up and turned a light on. Her arm was the colour of old linen but at least the bleeding had ceased. She was afraid to remove the tourniquet in case it started again. The feel of it, cold and heavy, terrified her. Like a cornered animal she gazed at the chaos inside and the night without.

"Wilfred! Oh, Wilfred!" she said. Feebly she went through into the bedroom and flung herself onto the bed. For a long while she lay there, too exhausted to sleep or get up again. At last she dozed, waking to find dawn outside and hunger cramps in her stomach.

It astonished her, as she awkwardly prepared a meal, to find how weak she was. After eating, feeling better, she turned her attention to the arm that lay lifelessly beside her plate. Not knowing what to do for the best, she untied the tourniquet. Nothing happened.

The wound looked ugly. She could radio for a doctor, but

doctors' services were alarmingly dear; as the awful bleeding had stopped she was not really worried. Carrying the limb over to the basin, she bathed it in hot water, then wrapped it carefully in bandages.

All that day she stayed in the livingroom, not moving very much, not clearing up the mess she had made. The arm ached. Royse felt an overwhelming resentment against Tachatale; it had lured her out with a pretence of friendliness and then struck at her cruelly.

Next day, the arm was very much worse. Royse got up, could eat very little, and sat before a fire nursing her arm to warm it. Stabbing pains forced her to unwrap and examine it. A faint green filigree underlaid its pastry pallor. She saw that one of the creature's pincers still lay embedded in the flesh.

Working turn and turn about with knife and scissors, she managed to extract the foreign matter. There was no antiseptic in the house, but again she bathed the wound in hot water. Her surgical efforts had made her sweat. She went to lie down. Fever came up and encompassed her.

Fever was a great sea in which she wallowed. It would seem to grow choppy until her head swam; or it grew rough and her senses were lost in a billowing tide; or it dragged her under until haunted seascapes flowed through her head. Or it became oily calm, so that for a while she would float on its surface idly taking in her surroundings, conscious of a smell which rolled in like fog.

Throughout all her drifting the arm was with her. Sometimes it was a log moving at her side. Sometimes it was a vast ship and she merely its sail. Or it would assume vegetable consistency, so that when she squeezed it her good hand sunk into rotten marrow.

The fevers grew darker, blowing her before them into strange territories of illness she had never before visited. Sometimes she cried, sometimes she screamed, sometimes she reasoned with phantoms.

Then she woke, Royse woke, with the fever gone and two men looking down at her.

"Are you feeling any better?"

Her tongue was like leather. She did not know these men and was afraid.

"Have a swig of water," the big fellow with the beard advised, thrusting a cup into her trembling hand. "My name's Aildred A'Alhoorn; I'm your next door neighbour. This here's Jim Girdle-castle; he's veterinary surgeon. He's a friend of mine—we shipped to Touchdown together."

She could hardly understand what A'Alhoorn was saying. Girdlecastle was a tall, spindly man, smiling at her uneasily.

"That's better," she managed to say. "What day is it?"

"Sixday, ma'am. We didn't know where your husband was . . ."

"He's out of town. He'll be back next Eightday."

She lay back. Her head was clearing.

"How did you get in?" she asked.

A'Alhoorn looked apologetic. "You were screaming out something terrible. I broke through your window—you'll find I repaired it all properly. My wife and me, we came in here to tend you. She brought you some soup. When we saw what the matter was, soon as daybreak came I fetched old Jim here."

Girdlecastle spoke for the first time, looking down sadly at her and pronouncing two words. He had a heavy upper lip like a horse. He said, "Gangrene, miss."

For the first time since regaining her senses, Royse thought of her misadventure by the black and yellow stream. Involuntarily, she pushed back the bedclothes.

Her arm had been amputated. It finished at the elbow in a neatly bandaged stump.

She went as cold as lead.

"What have you done with it?" she asked.

"Uh, well, you see I had to saw it off, miss. Like Aildred here says, I'm a qualified veterinary surgeon. You were in a bad way when I got here, needed something doing quick. Besides, a proper doctor would have set you back five hundred credits for that job and done it no better——"

"But my arm——"

"Whereas I'm not charging you a thing, miss. Just call it good neighbour policy—I only live a couple of miles down the monorail."

As he spoke, his long face full of apology, Girdlecastle ran one hand nervously along a black bag he rested on the side of the bed; in his other hand he grasped something clumsily wrapped in towelling, with which he gesticulated to emphasise what he was saying. Royse became fascinated by this bundle. It might have contained a cucumber.

"Have you got my arm there?" she demanded.

Dumbly, he rolled his long lip about, then nodded.

"I want it."

"Oh, it's no use to you, ma'am. Let Jim get it out your sight."

"I want it!"

"Let me take it away, miss. I was just going."

"Give it to me! It's mine!"

Sitting up suddenly, she grabbed it and thrust it beneath the bedclothes. She faced them like a dog guarding a bone.

Nonplussed, the two men mumbled to one another. A'Alhoorn announced that his wife would be round shortly with soup. He and his friend then beat a retreat, muttering their regrets and shaking their heads. Royse watched them go. When she heard the door close, she began to examine her treasure.

Twenty minutes later, Mrs. A'Alhoorn entered with a tureen full of delicious-smelling soup. She was surprised to find Royse up and dressed.

They had very little to say to each other. For one thing the language difficulty stood between them: Mrs. A'Alhoorn's accent was even thicker than her husband's. She had already tidied the living room on a previous visit. As she was not a woman to stand idle, she left before Royse had finished the soup.

Nourishment filled Royse with life. She drank without looking out of the window; she knew for certain Tachatale was her enemy.

When she had eaten, she looked round for objects of value, hurrying round the house. She collected a wedding ring, a brooch, a necklace, and forty-two credits in money. When the articles were sold, she guessed they would raise little more than two hundred credits, being hardly the sort of thing Touchdown pawnbrokers would value. Yet she estimated she needed about another hundred credits for her purpose.

Her eye lit on the Earth-Tachatale chronometer with its multiple dials. Without hesitation she lifted it down and put it into her bag. She put on her coat, then sat down to scrawl her mother a note.

"Dear Mother,

Here is my good left arm. Please keep it and preserve it for me till I get home. I shall come back to Earth as soon as I can; Wilfred is under contract but I'm coming back. I cannot bear it here, so he will let me come. Meanwhile, hang onto my poor little arm. I will not let it or any part of me be left behind on this hateful planet.

Ever your loving

Royse."

She tucked this note in the bag with her arm and other accessories and set off to catch the monorail.

Touchdown terrified her as usual, but she raised almost four

hundred credits on her few items for sale. From a big store she bought a large vacuum flask for seven credits a half, and had it filled with pure ethyl alcohol at a chemist's for two a quarter. Hiding in a side alley, she unwrapped her severed forearm and pushed it into the flask. Alcohol slopped over her shoes as she screwed the top on again.

A prefabricator's yard grudgingly supplied Royse with a box to hold the flask, charging her a half for it. She affixed a label to it and took it to the postal depot.

The depot mainly handled incoming mail. Rates out to the Seven Planets were ferociously high. Internal mail was almost non-existent, Big Mines and Touchdown being as yet the only towns on the new planet.

A clerk handed Royse a long sheet of regulations and prohibitions concerning letters, packages and parcels for shipment by spaceship, as well as half a dozen forms to be filled in. By now she was very tired and longing to climb back into bed. Her arm stump ached. She filled in the forms as quickly as possible while the clerk weighed her parcel on a hair-fine balance.

"Two hundred and eighty-five credits," he announced defiantly, as if daring her to question the sum. It seemed a fortune to pay for the privilege of getting a little box to Earth, but Royse paid gladly; she had, in fact, expected to pay more.

Clutching a receipt, she struggled back to the monorail to catch the next bullet. As she arrived home, although the world seemed to waver before her, her heart was full of triumph.

Wilfred returned two days later to find his wife lying in a corner of the bedroom. Concealing her bandaged stump from him, Royse shook with humourless laughter. Frightened, he bent over her but could make no sense of what she said. Even the message screwed up beside her made no sense to him.

He re-read it as her laughter grew wilder:

"With reference to your parcel for Earth, Register No. A.10088. Customs and regulations forbid shipment of this consignment. Its contents, alcohol and forearm, are both classified as non-exportable from Tachatale, coming under categories of Intoxicants and Foodstuffs respectively. Please collect consignment at your earliest convenience."

Consolidation

On the distant worlds humanity fought and grew and flourished but on Earth all was peace—and latent decay

Illustration by Kenneth Barr

Mainly because the discussion chamber had a pleasant purple coolness, Volk City Council held its scheduled weekly meeting that day; though there was little on hand. Its members spent a leisurely couple of hours in idle talk.

Hallern was more emotional than usual. He soon dominated the group with his earnest (though wasted) ideas on human society. Specially, he spoke fondly of the place reserved for the Earth.

"Picture," he said, "that dynamic englobement of human settlements which surrounds Terra. There, no doubt, among the stars, struggle is still necessary, hard dynamics, even strife—the sphere has an expanding, outward thrust. But at its centre—what have we? Sol, and its third planet, peaceful and calm as a still lake, protected by the virility of the outer colonies—even though we have lost touch centuries since. Do you see the wonderful shape of human society? On the periphery, energy and might—but at the centre, this undisturbed stillness."

He paused and cocked his head. From somewhere in the distant air came a flat rumble. "Sounds like a storm," he remarked, then continued: "It reminds me of a tornado—all fury on the outside, and in the middle—still."

He paused again, puzzled. The noise wasn't *quite* like thunder; it was prolonged, deliberate, too sharp and blasting.

"What do you want us to do," said Mark sarcastically, "build a monument?" Then, noticing Hallern's attentive manner, he listened too. The sound grew louder, and seemed to sink earthwards.

The chamber emptied in fifteen seconds. Its occupants were in time to see a group of tall metallic objects, a sour colour in the sunlight, fall to the horizon and disappear. The sound of bronze thunder faded, slowly.

"Visitors, huh," said Mark. "Come to have a look at the undisturbed stillness."

Ten minutes later came the frantic broadcast from Onyx, a small city thirty miles further down the plain. Before its transmitter went out of action the radio station informed that the alien ships had landed in the suburbs and were sacking the town.

Back in session, the council was told by its chairman: "Our city of Volk is the largest on the planet; also it is the closest to the scene of the invasion. These two factors, in the absence of a proper Terran government, combine to make us responsible for leadership in this matter."

The chairman leaned back in his chair. "What shall we do?" he asked, with the air of one who passes a problem on.

There was no answer. Everyone looked at everyone else.

"What about you, Hallern?" enquired the chairman, picking out the man who always had something to say. "No ideas?"

Hallern shrugged.

"What?" said Mark, "even the Consolidation of Man can't help us?" He looked around him, scowling. "I'll say we're consolidated—consolidated into one block of petrified uselessness!"

"Then what do you suggest?" asked the chairman quickly.

Mark really had no suggestion to make. But he realised that his bad manners had forced him into either making a move or else stepping down with loss of dignity. He pondered for a moment.

"I'll take a 'copter," he announced, "and inspect the situation at closer quarters. Then maybe our course of action will be clearer. Would anyone like to come with me?" He threw out the last by nature of a challenge.

"Yes," said Hallern, not seeming to notice Mark's tone of voice. "I'll come."

They left the chamber, Mark going first with an almost unconscious touch of arrogance, Hallern more awkwardly in an uncomfortable silence. Neither spoke until they were in the air.

"My God," Hallern said, as if suddenly shattered, "this is a terrible shock."

"Sure. It certainly busts up your ideas about protection. What are the star colonies doing while these savages shoot us up?"

Hallern shrugged, staring unhappily through the canopy. "Interstellar space is . . . big. I suppose they could just ride through and no one would even notice. What are a fleet of ships when the average distance between stars is five light years? Lord, I don't know if they could be detected even inside a solar system!"

"In other words," Mark answered mercilessly, "you were talking earlier today of matters you know nothing about."

As soon as the tops of the invader ships became visible he took the 'copter near the surface, hoping to merge with the background, and approached cautiously. This was the first time in his life he had been in physical danger, unless he included the fractional and unremembered hazard of birth, and he spent a few seconds in self-observation to discover his reaction. Surprisingly, he found nothing—nothing at all. His feelings were an utter blank. He would have expected himself to be shivering with fear. Curious, he gave a side-long glance at Hallern. The fellow didn't appear quite so unaffected.

The ships of the raider were like dark flat sword-blades, narrow at the base and growing wider before they contracted squatly to a pointed tip. They stood perhaps a thousand feet in height, and were constructed of a metal which had a flat, blood-red sheen.

Altogether, they were oddly barbaric and war-like. They reminded Mark irresistibly of the Vikings' longboats. The impression was strengthened by the way the vessels reflected the flames of the town which burned just beyond them.

Mark edged the 'copter away again, still keeping close to the ground. Although he had seen no sign of atmosphere-craft, he did not attempt to gain height until some time after the tips of the sword blades had disappeared below the horizon.

"What do you think?" Hallern whispered.

Objectively, of course, he had learned almost nothing. Nevertheless the emotive content of the scene seemed to help him to arrive at definite patterns of action. "Let me think," he answered at first,

then a few seconds later: "We'll hit back; we're not entirely helpless."

"We've no armaments."

"We'll rig some up." He smiled grimly. We'll try an air raid, he thought. Now that he faced the situation squarely, it was too simple: even a small-sized atomic detonation would destroy the invading force in its entirety.

The city council greeted his return with an eagerness that made it clear his expedition had caused them to automatically confer leadership upon him. He saw quite plainly that these men were better suited to plan a city festival than a war: which was after all in order, since it was for such purposes that they had originally been elected. He pushed his way through them into the council chamber and daringly seated himself at the head of the table.

The councillors followed in a disordered conglomeration. When the chairman saw that his place was taken Mark for a moment thought there might be trouble; but instead the man shrugged and took up a lower position.

Mark waited for them to come to order, then briefly outlined what he had seen. "Within an hour," he continued, "we can become an armed people. It should take that long to jury-rig a nuclear bomb."

"How do we deliver it?" someone asked immediately.

"The best way," he said slowly, "would be a rocket with a trigger device."

"We have no rockets," the chairman pointed out, "and the building of one would take far longer than half an hour."

"Then we shall have to use manned aircraft," Mark concluded with finality. "Of course," he added, "there is one possible disadvantage to any attack we might make."

He paused, while seventeen faces watched him anxiously. In spite of the seriousness of the business, he was enjoying himself. "We can't be certain that the raiders plan to extend their operations. Should our attempt fail, they may be provoked into further hostilities where none was intended previously."

That hit them hard. "Certainly," the chairman voiced, "that must be taken into consideration."

"Rubbish!" Mark snapped. "It must be given no consideration at all! Are we just to sit back and hope they will go away? We should strike *immediately*, if only in revenge." Seeing the expressions on their faces change in accordance with his words, he

laughed inwardly. He had never before realised how men could be controlled.

They discussed further details—or rather, Mark laid down suggestions and the council agreed with him. Just as the meeting was about to break up, Hallern spoke for the first time.

"I have a suggestion to put forward," he said mildly. Faces swivelled to his with new interest.

"Go ahead," invited Mark.

"I wish to point out that we have allies—in the star colonies. Surely they will help us, if we can signal them. These savages must be old enemies of theirs."

"Still plugging the old consolidarity of Man, eh?" Mark grinned, half amiably and half with the contempt he found his new power had given him. "But it's a good idea, Hallern. Can it be done?"

He spoke the last words commandingly, scanning the council for an answer. The chairman supplied: "A method of super-C communication was developed about three centuries ago, but was abandoned while still a primitive science, I believe. No doubt records still exist. There is another side to the question: can the colonists reach us in time? At the last contact a hundred and fifty years ago ships could still not travel much in excess of the speed of light."

"Nevertheless, it is worth a try. Can I trust you to get the equipment constructed, Mr. Chairman?"

The man nodded.

The rest of the council flowed into the sunlight like children released from an unpleasant lesson. The chairman left a few seconds later, and Mark found himself alone with Hallern.

"Pretty cute sense of politics you have," Hallern told him. "I hope you'll know when to quit."

"What do you mean!"

Hallern sighed. "Oh well, no matter. There'll be no place on Earth for a power-seeker once this business is over, anyway. Too much docility."

"Ah," Mark retorted, "only amongst old council fools. There's bound to be some stronger blood in the younger men."

He stopped with a jerk as he realised what he had said. The words had tumbled out in response to the other's prodding, until that moment the thought had not been in his head. He gave Hallern a crafty look: now who was controlling who? "I'm sorry," he said, "I didn't mean that."

"Maybe you don't think you did. But no one ever says anything that is truly meaningless, Mark."

He sat rigidly, staring straight ahead of him into the ovoid purple council chamber with its filtered sunlight. When the silence had reached a tense duration he pronounced: "I wish you to understand, Hallern, that I have no ambition except the protection of Earth from the raider." Rising, he walked to the doorway and left Hallern sitting alone.

Once outside, he found that his mind had been jogged: parts of him were floating around loose and needed fitting into place—but he couldn't manage to do it. The parting words he had spoken a few moments ago had been sincere—at the time of speaking. Were they good for a longer period of time? Already it seemed to him that they were not in focus with the body of the problem.

It was true he had reacted as no one else had done to the invasion. And wasn't it lucky there was someone like him? Old history was littered with examples of soft peoples who were exploited by barbarians. Unless they were treated roughly the raiders came again and again, and in the end overran the peaceful folk. He wouldn't let Earth be conquered by a mob of alien beasts, spiders or whatever they looked like.

But it went deeper. The response to the raid had come from a layer of him that had a more general relevance, as if the raid itself were only an excuse for action.

Action! It struck him like a thunderbolt. There was no action on Terra; it was a static society, all its events were garden-fête events. All previous societies, he realised, had possessed a momentum, a flowing-forward. The raiders possessed it, they went places, did things, like ravishing Earthly towns. And what did the Terrans do when this happened? They just milled around, dumbfounded unless a man like Mark was handy.

And now Mark would change things. Man must have this momentum latent in him, or he would never have gone to the stars. Mark would revitalise it and direct it against the belligerent, wipe him clean off the face of the planet.

After all, men were able to build thousand-foot starships, too, if they put their minds to it. Walking under the sun across the City Plaza, Mark experienced something he had never felt before: he felt himself to be a man, a human being, among human beings, and on Earth, Sol III; part of a human nation, which was one of the human nations among the company of huge suns. Perhaps this was what Hallern felt with his insistence on the unity of Man.

To Mark's annoyance, two days were needed to prepare the bombing expedition; in his ignorance he had underestimated the time required to adapt the normal power-producing nuclear methods into a fast-reactor suitable as an explosive. However, this enabled him to plan an even larger raid than he had originally intended, a convergence of detachments from several surrounding cities. In all, he hoped to throw against the enemy fifteen converted airliners from the civic ports, carrying perhaps three bombs apiece. This added up to forty-five times the minimum necessary destructive capacity.

Out of all that, he thought, something should get through.

Meanwhile, the raiders made no move, strengthening the opinion that theirs was merely a cursive touch-down, an incidental stop without ambitious intentions. Occasionally Mark would be approached with a request to call off retaliation for fear of provoking world-wide carnage. He treated such timidity with scorn.

"What will you do," one of the objectors asked him, "if the whole of your fleet gets blasted out of the sky and the enemy then proceed to visit each Terran city in turn? How will we fight back?"

For an answer Mark sent for the chairman of the Council.

"How about the Super-C signal? Can it be built?"

The chairman nodded. "It will be ready at about the same time as your fleet."

Mark gestured to his questioner. "We won't be alone."

"That is presuming the star colonies have a Super-C drive," the man said irately. "They'll be no damned use to us if they take ten years getting here. And if they have such a drive, why haven't we heard from them all this time?"

Mark lost his patience. "If you want to live like a rabbit, go dig yourself a hole!"

The man turned, and walked out silently. Mark and the chairman looked at each other.

"I might tell you," the chairman said, "he's no isolated crank. This incident is causing a degree of social disturbance—the people have become suddenly split up into half a dozen factions; some like him, some just plain scared—some even glad of the excitement." He shuddered.

Mark almost said "Yes—I'm glad of the excitement. And I hope the populace get sufficiently worked up about it to knock each other's teeth out." But he restrained himself; at this stage, he could not afford to give a too radical display.

When the chairman had left he found a bubbling glee was

running through him. Already Terra was roused! All this complacency, he told himself, was less than skin deep.

And when he watched his bombers—*his* bombers!—take off thirty-six hours later, he realised he had been asleep all his life. More, he had remained unborn! Earth was a womb, its atmosphere the uterine fluid. Who on Earth felt the need to venture into space?—until now!

He had chosen just after sunset as the time for the aircraft to lift, thinking it an advantage to move under cover of darkness. Now he wondered if he had not had some other unconscious reason: the scene and its implications, the five huge vessels, lurid in semi-darkness, droning with a dark purpose and their take-off exhausts glaring, were evocative in a way impossible in bright sunlight. Mark felt good. He paused to wonder how many others at this moment had discovered that Man is by nature a fighting animal.

The aircraft ascended in ragged chorus and proceeded to where they would hover in wait for their companions from the other cities; the total force was to advance from four directions at once. Mark entered the control box from where he could direct the operation and watch the battle through the infra-red eyes of an observing helicopter. Already there were several people in the room, including Hallern, worried as ever, squatting before the screens. Mark took his place, then looked round questioningly as the chairman of the Council entered.

The chairman nodded. "The transmitter has been in operation for an hour."

Mark allowed himself a busy smugness. The screens were still blank. "How's it work?" he demanded, "by a beam?"

"No, by broadcast."

"But doesn't that need an impossible amount of energy?" Hallern protested.

"It would do—that is one of the major difficulties in interstellar communication. The apparatus overcomes this by transmitting in radial planes—or almost planes, since their thickness is infinitesimal—and so requires relatively little power. Up to about eight light-years distance a suitable receiver is bound to intersect one or more of them. After that their divergence is great enough to need alignment, but we can count on this happening accidentally if there are as many as a dozen receivers within twenty light-years."

Abruptly the two screens lit up. With a viewing angle of a hundred degrees apiece, they overlapped slightly to give an overall

panorama of a hundred and eighty degrees. The cameras swung around, caught the fuzzy glare that was the infra-red radiation from the hot jets of the approaching Volk craft, then scanned to show in turn three other patches of incandescence. All the groups halted while several miles distant.

The tactic was that one aircraft from each force would rush over the alien encampment, drop its bomb and flee before the quadruple detonation was triggered. If that failed, Mark would improvise the next manoeuvre when he had seen the enemy defences at work.

He clicked open the audio circuits. Through the speakers came a slight roar, many-voiced and baffled as it was conducted from its fifteen sources. Only the 'copter kept radio silence.

"Go ahead," said Mark. They went ahead.

So did the enemy. Mark instinctively staggered back from the savage brilliance of what happened on the screens. The tips of the alien ships spewed radiation with such force that the cameras were blinded and the screens hit their safety limit of intensity. Then they went blank—the viewing apparatus was out of action.

"You!" Mark ordered someone at his elbow, "get a 'copter out there and take a look."

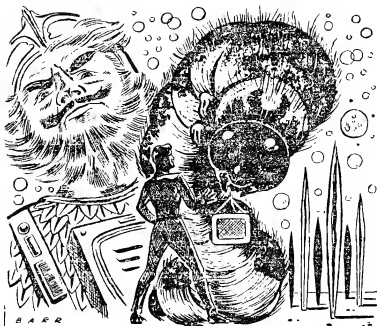
Shaken, he wiped his brow and tried to bully his body out of its shock reaction. While it was theoretically possible that the flood of energy was simply intended to overload the electrical eyes, he was certain that this was not so. His fleet had been wiped out. The atmosphere in the room had changed so much he half expected the walls to shatter about him. The invader's defensive blow, sharp, syncopated, ruthless, had put the control tower into a mental condition of siege.

"Alright!" he spat at those who watched him, "what did you expect, a pushover?" Singling out Council members he began to give out rapid orders "Now we'll begin this job in earnest. You—we shall need more aircraft. Radio for some. And you—find a history scholar who'll know about methods of war. Spend the night in the library with him and present me with a report in the morning. There were real weapons on this planet once." His commands were obeyed eagerly, as if by frightened children. Not a bad analogy, either.

When the scout returned, he hadn't much to say. "The ships are still sitting there. No airplanes." Behind him came a messenger who spoke briefly to the chairman.

The chairman turned to Mark. "Our broadcast just got answered. Help is crossing Pluto's orbit."

Mark felt an enormous burden clear from his mind.



Perhaps it was naïve faith, perhaps just the new belief that all men are brothers, but it had not been expected to find the newcomer starship manned by furry caterpillars as big as coloured horses, but twice the length.

Out of consideration for the fact that they were too bulky to negotiate Terran architecture easily, Mark chose to meet their ambassador in the park just outside the city. Undulating down the ramp of the transport plane which had carried it, the creature crawled at moderate pace over the grass, the waves of its movement travelling with regular frequency throughout his whole body (Mark immediately thought of it as masculine).

From one of a number of frontal appendages jutting out from his protective clothing hung a small box, attached by a lead and swinging in the slight breeze. The caterpillar lifted it.

"I am equipped for conversation," the box said. The voice was human, but with an odd accent that under other circumstances Mark would have attributed to an obscure local dialect. Probably this was correct: he supposed he was hearing the reproduced tones of some star colonist.

"I'm glad you know the language," he congratulated.

"Hum. We are familiar with some of your other settlements. Perhaps some of the older ones. This is a colony of—Sirius, perhaps?"

"No, this is an independent world." Mark decided to let it go at that. "I trust you have been informed of our difficulties?"

"Correct. I was given a tutor during the flight from our landing site. We know who these belligerents are, Mr. Mark, they are very wicked and bloodthirsty people. In your language there is a word 'bastard'. These people are very bastards! We are your friends, if they are your enemies, we hope." Behind a transparent hood the caterpillar performed gestures with the skin of his "head"

Mark assured him, and went on to describe what had happened to his assault. The caterpillar seemed full of recognition. "Yes," he said, "yes. The brightness was a simple gun, firing missiles which almost as soon as they leave the muzzle begin to convert some of their mass to energy by a medium-slow reaction of controlled rate. Quite devastating. It is necessary to give your bombers their own weapons, not just bombs."

"We haven't any. Can you help?"

"Hum. We do not wish to risk our own ship in the battle. But we can dismount some of our lighter armaments for your use. Have you good factories?"

"Good by our standards."

"Good enough. We will show you how to manufacture. Start work now, be ready to blast those creatures from Earth tomorrow."

Pleased and impressed, Mark thanked him profusely.

"Thank luck, Mr. Mark," the caterpillar replied solemnly. "By courtesy of Mrs. Luck, we were passing by Sol, heard your signal. Travelling one hundred and ten per cent. the speed of light, another ship will take years to come."

The caterpillar turned, like a train, and lumbered towards the air freighter which was to carry him back to his fellows on the other side of the world, as far as possible from the raiders. It made Mark feel that he was sitting on a tiger's tail, but he had gained a certain amount of mental security by meeting this confidently amiable beast.

He waited for his visitor to crawl up the ramp and out of sight, then rode back to town. In the airport's control tower, which because of its effective communications had been taken over as an operations centre, his men were arranging for the influx of newly requisitioned airliners. A dozen cities, he was told, were busy manufacturing bombs from their nuclear power plants. The abstract on war apparatus was

waiting for him. Mark glanced through it to set up production of weapons from ancient specifications would be a tedious task, and not worthwhile now that superior designs were available and ready to be translated straight into metal. He forwarded the report for filing.

From then on he enjoyed himself, organising the second assault free from the brain-tearing worry and lack of knowledge that had clouded the first one. This time he knew what he was doing.

Within two hours workshops were machining the first weapons and tooling factories preparing for mass manufacture. Besides an advanced type of "energy barrage" cannon for the flying forces there was an adaptation of a caterpillar hand gun, for Mark intended to send troops into the occupied town. The caterpillars assured him that though there might be a bitter struggle, against the potential of an entire planet the raiders would certainly be crushed, or at least driven off. "That filth," they said, "not fit to touch down on planets." Meanwhile technicians on three continents worked through the night.

Earth's dormant heart had begun to beat.

Late in the following afternoon everything was ready. One of the caterpillars had been laboriously installed in the control room, positioned where he could see the screens. Mark sat limply in the director's seat, waiting for the hands of the clock to meet.

They did so. Instantly, the screens came alive, but this time there was no true-to-life picture instead, a luminous rod rotated deliberately. Because of the overpowering amounts of light which shortly would be released, the first stages of the encounter were to be recorded by an ancient radio-reflection means, where the units of each side showed up as little splotches. Swiftly, the speckles converged on the static group in the centre of one of the screens.

Mark spoke. The speckles formed a pattern and simultaneously opened fire.

The problem was to lob a chunk of matter the size of a bomb into the centre of the alien encampment. Any such object, no matter from what angle or at what velocity, could easily be stopped by the tracking devices utilised in those flat sword blades the only strategy possible was to overburden the enemy's fire-power. To do this Mark recruited squadron after squadron, straight off the assembly lines, manned by men with perhaps half an hour's instruction. As he watched and manipulated the weaving patches of light the countryside became entangled with ripped metal hulks, some piled one on the other. Yet none of this showed on the screens, neither did the ravishing fury of the combatant weapons: there was only the cold,

objective pattern of blue spots. In reality the battle area was a heaped haze of luminescence too brilliant to endure.

Several times he tried the trick of dropping a bomb from a great height; but always it was detected and prematurely triggered in the first few hundred feet of its fall. However, as Volk swung round towards night the enormous sacrifices began to pay off: gradually, the aircraft were able to skim closer as the aliens were forced to retract slightly the perimeter of their defensive screen. Then came the gambit Mark stubbornly wished to prevent: the central array of spots began to waver.

The aliens were preparing to lift from the planet.

Urgently, he pressed the attack closer. With desperation, one of the bombers plunged forward from an extremely low elevation. Miraculously—it was through. It had embarked on a suicide flight, and blundered through the enemy's array. Mark imagined it thrusting forward, breaking its wings against spaceship walls. From the perturbation of the central spots it was obvious that the raiders were already in the act of blasting off.

Then the bomb triggered.

Abruptly the screens blanked. "What the hell," Mark muttered. After a momentary pause they lit up again to show the reason why. The observing 'copter had switched to visual transmission; into the rooms shone a picture of blue sky and clouds, the edge of the atomic cloud, and something with a reddish glint hurtling aslant. One of the ships had escaped in time.

Evidently it had gone up only just in time, and was damaged. The surviving bombers came into view, zooming in pursuit; the 'copter itself threw its weight onto its jets and gave chase. While random shots flared, the alien ship faltered erratically, and altered its angle of flight. Now Mark could see the utility in its flat broad shape, for it skimmed the atmosphere like a wing surface. Mark was grinning; the fugitive had ceased to gain height. The white exhaust of its drive sputtered, and went out, causing the vessel to go into a glide that deepened until it became a plunge. The camera twisted downwards, revealing that it hung above the ocean, then the crippled ship fell swiftly into the waters.

"That's that," said Mark with satisfaction. But he was proved wrong by its reappearance, floating sedately. While the bombers prepared to dive onto it the tail emitted a revitalised glow, steadied upwards, and the ship moved on the water, gained speed and speared upwards. The bombers whirled towards it. It vanished.

"They escape," the caterpillar said in dismay, "the swine escape."

Mark didn't care. Victory! He didn't answer for a moment: he was busy despatching his foot soldiers into Onyx. Then he turned.

"No matter, friend, they won't return willingly."

"Hum. I hope, Mr. Mark, we may in the future again co-operate, if there is opportunity."

"You bet there'll be opportunity. We'll find it if there's none handy." A warm glow spread through him. Earth's first conflict in centuries—and Man fights like a hardened warrior! There's good blood in mankind, he told himself. The next job was to prevent a return to soggy placidity. Automatically he surveyed the room: his eye fell on Hallern. "Hallern, old man!" he congratulated, "you were right all along. The strength of Man, eh? If we follow this through we can re-establish intercourse with the stellar colonies."

A buzzer sounded. "What is it?"

"The troops have taken a prisoner, sir," the speaker said in a small voice.

"Get it here right away! I want to see what these things look like."

"Hum," said the caterpillar.

"Friend," replied Mark, "I wish to pledge good relations. We can be strong allies, caterpillar and man. We must strengthen our common interests."

"Certainly, with certainty," the box agreed. Mark carried on in the same vein, swept away by his success.

Shortly a soldier was admitted into the room, looking a little distraught. "He's outside," he informed tersely, "do you want him?"

"Yes, bring him in. Get a linguist too, to start to crack the language."

"No need. His native tongue is a variant of our own," the soldier beckoned over his shoulder. They heard a scuffling and a hoarse bellow, then the captive was dragged angrily through the door. Mark stared in amazement.

It was a man.

This was the invader—the alien monster against whom Terra had appealed to her children for protection. A man, who raped his original mother-world.

The earlier indications of barbarianism were fully vindicated. The raider seemed made in red: bulky, encased in scarlet armour with enigmatic electronic attachments, a heavy helmet, a ginger

beard—and a rough face which held the most contemptuous of expressions.

The caterpillar was speaking. "I hope, Mr. Mark, you will continue to join with us in war against these swinish bastards."

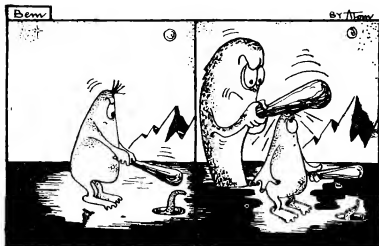
Wanting to spit, Mark whirled on Hallern. "Consolidation of man!" he jeered. "Get out of my sight!" His entire orientation, fabricated in the last few hours, fell to pieces, leaving him with a sensation of emptiness.

His mind scurried unhappily here and there. Then the ambiguously anomalous position of Terra resolved itself triumphantly in his mind: already allied with the caterpillars, but blood relation to the raiders—a factor not to be ignored. What, after all, did loyalties matter? With clever politics—Mark did not doubt his abilities—what power might the Earth gain. the balance of power, perhaps.

"Why, without a doubt," he answered, turning again to the caterpillar with a new confidence. "You must instruct us in the building of starships; we have lost the art."

Well, now, the future didn't look entirely blank. There promised to be an interesting time ahead, for Earth, and for Mark.

JOHN DIAMOND



Medicine Man

The slightest injury could cause these people a quick and painful death. Was it possible to make them save themselves?

Illustration by Kenneth Barr

John Crispin poked moodily at the toad's eye, the snake's fangs, the powdered mushroom in the wooden bowl and the shrivelled umbilical cord. "Back on Earth, Ralph," he said heavily, "they used to roast mice and roll up wood lice into pills as cures for the common cold."

The tent walls baked in alien sunlight and the electric fan droned futilely. Crispin stirred the mess on the rickety table with a stained forefinger and with the other hand beat automatically at buzzing insects. "But they did at least cup a vein, they weren't scared to operate, for all their faults they knew that you have to fight directly and positively against disease. Here on Hynam II they'd die sooner than let you scratch their skins."

"You can't blame them, John." Ralph Hill's khaki shirt and shorts, like Crispin's, were black with sweat. "Open a wound here and infection spreads like a forest fire."

"I know. I know." Crispin drank thirstily from his misted

ice-cold tumbler. "But the poor devils die just the same. That fellow who fell under the crusher—leg half off. I could have amputated cleanly, sterilised, and in a month or so he could have been trying out his new dural leg."

"People used to die on Earth, and through vein cupping—"

"Of course they did! But at least they did amputate and then use the old hot tar bucket. Here they just pack this filthy stuff around the wound and then sit in a circle chanting dirges."

Around them the alien sun beat down, blazing mercilessly through the tent wall, baking the brown mud into concrete. A working party of natives, padded in quilted protective clothing, toiled up the hill leading to the half-completed dam, singing in a minor key. Across the valley power shovels bit steel jaws into the mud, concrete mixers growled and metal clashed as riggers juggled with girders.

"Jenson's a full two months behind schedule." Crispin tossed the snake's fang on to the table distastefully. "If the dam isn't finished before the weather breaks then all the valley will be flooded, just like it is every year, and we men of Earth—the Gods from the Stars—ha!—will fall flat on our proud noses in front of these people."

"Terran Planning sent us here as the medical outfit," said Hill reasonably. "We can only do what the natives allow. You know we can't break any taboos. We'd be shot from the Service so fast and so far we'd never get a practice clear out to Sirius."

"You don't have to tell me that." Crispin stood up and reached for his topee. "I'm going to see Jenson."

He slammed the topee on his dark hair, his eyes crinkling at the brilliance outside, and began to walk angrily towards the access bridge. The coffer dam, upriver, bulked low against the water. The clean whiteness of the dam, rising among its confusion of mud tracks and vehicles and piles of stores, looked a fragile wall to set against the fury of those millions of tons of water, piling slowly higher as the streams in the distant mountains rose remorselessly. Once the weather broke the mountains would weep, and the rush would swamp all their work.

"Earthman's work," Crispin said savagely, and jabbed the hard baked mud with his cane. "As a doctor I rank as the biggest layabout in the Galaxy."

He found Jenson amid a confusion of noise and movement, high on the dam's outer wall. Concrete poured in a thick grey flood

from conveyers. It squelched like Crispin's hopes of ever doing a worth-while job on this planet where the natives would not allow him near them.

"How's it coming, Jenson?" he asked.

"Damn bad." The big construction manager straightened wearily and brushed a hairy forearm across his red forehead. "Slowing down all the time. These people just don't believe that anything we can do will stop the gods of the river from putting on their annual show of anger and flooding everything out. I should have stayed at home in Liverpool."

"No co-operation?"

"Oh—Wakiki co-operates well enough. As the big chief he only has to tell his people to humour us and they help. They hump mud and concrete and do what they're told."

Crispin could not fail to be aware of the hostility in the big construction chief. He knew that anger against him was deserved. When a manager sees his men mangled by accidents and the doctor paid to do a job stand by uselessly, well, rationalisation is hard to come by.

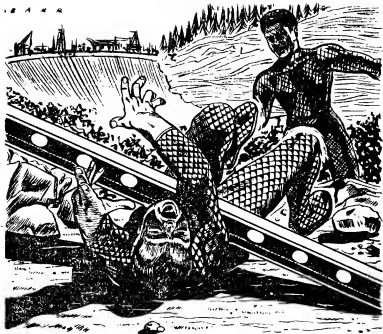
"They're tough fellows, all right," said Jenson. "They could be rugged in a fight. Look at that."

Crispin followed the pointing finger. A native Hynam was lifting two sacks of cement—total weight must have been a good two and a half hundredweight—over his head and then pushing them up a foot to a comrade who grasped and swung them all in a fluid easy motion over and onto the upper conveyer. The natives were humanoid enough to be taken for an Earduman at six paces; one glance would have told anyone that no terrestrial was going to toss two and a half hundredweight about like a feather in this heat and humidity. And wearing a closely woven quilted armour all the time.

The scream that broke upwards like a runaway locomotive was certainly not terrestrial. Crispin and Jenson swung to look, and tensed. A native Hynam lay writhing on the concrete, arms and legs twitching like an impaled insect. A whole thickness of steel girder lay across the man's lower body and Crispin's insides curled. He could envisage all too clearly the injuries the native must have sustained.

A crane manipulated with expert precision by a terrestrial worker dropped its hook to halt with a far bare inches above the girder. Willing hands hooked on. The girder lifted protestingly, inched sideways, was shoved to topple free. Crispin reached the

I E A R A



injured native's side before anyone else and he knelt, practised eyes flicking over the Hynam's mangled body. Nothing could be done. He slipped out his hypodermic case, prepared to inject a shot of merciful pain-killing dope, knowing that the native's body chemistry was similar enough to an Earthman's for the drug to take effect.

The native was screaming an unintelligible babble of crazed sounds. Crispin bent forward.

An immensely powerful arm brushed him aside. He fell, striking his leg upon the girder, feeling pain and seeing the tall angry form of another Hynam bending above the injured native.

"You fool!" shouted Jenson. "You know they won't let you touch them."

"I was only trying to—"

"Well don't! And keep off my dam in future. Now I'll have the rest of what's left of this benighted day lost in wailing and chanting until this Hynam dies. What a life!"

Crispin stood up. His leg pained and, glancing down, he saw the deep cut from which blood welled slowly. The natives around him were pointing and gesticulating and he had no

difficulty in recognising that, as far as they were concerned, he was a dead man. Anger against the native who had pushed him flared—and then died. The man had only been acting according to his lights and you couldn't blame him for that. Then the real seriousness of the situation roused a pang of fear and he knew that if he didn't get back to the hospital tent at once and have the wound cleaned and dressed he'd be a mass of rotting corruption within the hour.

Ralph Hill met him halfway there. He saw the gash.

"You'd better get that seen to pronto, John. Come on—at least you won't cringe at the thought of an Earthman working on you! What happened?"

As Crispin told him he was aware of the cold anger that boiled in his brain. Here he was, an accredited doctor and surgeon, Terran Planning Medical Corps, with a first class tented hospital and a first class assistant, categorically denied the right to do the task to which he had dedicated his life. The situation was intolerable.

When Hill had finished swabbing and bandaging the wound, Crispin said grimly: "This is it, Ralph. I'm sending a gram to Earth H.Q. I'm asking to be recalled."

"But you—what about our oath? And the dam?"

"Act your age, Ralph! What good are you and I doing here? None! We might as well get back and catch a new assignment. Somewhere the people will be pleased to see the red cross."

"Yes—but—"

"There are no buts about it. We're wasting our time here. The natives get sick and fight us off when we try to help. They knock us about when we try to aid one of them injured in an accident. The dam is behind schedule and the floods will come and wash everything away and men will be the laughing stock of the planet. You know as well as I that this is a pilot scheme. If we could have stopped the annual flooding we'd have saved these people a thousand years of development. Each year they accept the floods and take off for the hills. Then they come back, plant their crops in the valley, the only fertile strip around, and harvest them just in time to be washed out and start all over."

"We did at least get them to co-operate on the dam."

"Yes. We supplied them with food so they wouldn't have to harvest their own. Now they'll begin to accept that and take

it for granted. A sort of dole. We'll end up either feeding them while they sit around or importing thousands of workmen from Earth. Either way would be a major catastrophe. You know that."

"And so you're running out?"

Crispin's face flamed. "I'm not running out, Ralph!" The anger had burned away his own shame. "If we can't help here we might be able to help elsewhere."

"Think I'll go and see Wakiki." Hill moved towards the tent flap, not looking at Crispin. "He might help."

"He won't. And you're crazy to think he will."

After Hill had left Crispin sat, alone, moody and feeling as though he had broken every rule in the book. But what else was there to do? Make the Hynams accept his surgery? Maybe. He reached for a cigarette, brushing away flies, suddenly thoughtful.

He looked at the snake's tooth, the toad's eye, the umbilical cord. Useless. He picked up the wooden bowl containing the crushed mushroom and pondered.

By the time Hill returned, flushed and breathless, Crispin had completed his preparations.

Ralph Hill said: "Now we're in for trouble. Old Wakiki's favourite son went exploring and fell down on a pile of rusty machinery up at the dam. Wakiki's breathing fire and slaughter. Blames us, of course."

"Wasn't the kid wearing the padded armour against just that sort of accident?"

"Yes. But the rusty edges went clean through it." Hill looked at him sharply. "You don't seem very perturbed, John. Don't you see what this means? Not only will Wakiki withdraw his men from the dam, he's very likely to attack us and kill us all off—"

"He might. Look, Ralph, I heard what you said about running out. I'm willing to take another crack at it."

"It's pretty late for that, isn't it?"

"Ralph!" Crispin felt angry sorrow—hell, Hill was too uncomfortably nearly right. If the scheme didn't work more would be lost than merely a dam and the prestige of the Earthmen on this alien planet.

Hill saw the wooden bowl. He looked down into it.

"That's fuller than it was." He breathed in, suddenly.

"But you'll never persuade them to use it. Not after we've had it up here in the hospital."

"We've got to make them use it."

"All right. So they use it, after you use whatever sleight-of-hand you possess to substitute it. What then? They'll just believe that their own wizardry has cured the boy. They won't believe that Earthly drugs mixed in with their own goo have done the trick."

"That's the problem."

"Of course," said Hill slowly. "They saw you take that nasty knock on the leg. If you go marching down there they'll have to face up to it. You didn't die."

"They don't always die when they're injured."

"Not always. They remember the last man who didn't. Ten years ago. They still talk about it."

"We weren't around then. Two years. Two measly years—and in all that time we've accomplished nothing."

The rumbling thunder of many voices caught their attention. There was a deep, ominous note in the chanting.

"At least, they don't beat drums," said Hill wryly.

"That, we can do without. This is serious enough as it is, without gratuitous nerve-irritations."

"I know we made a bad mistake when we first arrived in trying to introduce surgery. We didn't know, of course, that the sight of cold steel sends them crazy." Hill brushed his forehead irritably. "This is my first assignment—and I was hoping—"

Crispin felt remorse. He said "You don't have to hide from me that you blame me for this, Ralph. Oh, sure, I know you don't really believe that. Your first assignment. Well—it's my third. Once on that spaceport job over on Lyra VI and then another dam on Pontius II. Each time I did a job—"

"A damn good job, John. I heard."

"I'm sorry, Ralph. Sorry your first job turned out like this. But Terran Planning in reshaping worlds better to the heart's desire of the owners of those worlds sometimes comes in for some nasty knocks. Perhaps we should have gone into Space Medicine."

"I like my feet on solid earth."

"Well, maybe. Let's go and see if Jenson has any news on Wakiki's boy."

Going up the trail skirting the edge of the valley Crispin could sense in the air the omnipresent putrefaction, the waiting micro-organisms—and knew that this was purely subjective, a

product of a heightened imagination driven by anger and frustration and despair. Everyone seemed agreed that the Hynams could not have come to evolutionary development with their present bacteriological conditions as they were now. Either the natives had been planted on this planet as the result of some old interstellar accident or the micro-organisms had multiplied in numbers and ferocity quite recently.

Rising steadily up the slope, they trudged through the hot afternoon, making for Wakiki's village. Crispin guessed that Jenson would be there, arguing and pleading with the chief, although pleading was not Jenson's way. Crispin had been barred from the dam; the knowledge soured in his mind. If this last desperate throw did not succeed he would be glad to leave this planet and head out for the clean spaces between the stars—and then to Earth.

Long before they reached the collection of mud and wattle, corrugated plastic and thatched houses that comprised the village, they heard the clamour. Hill glanced at Crispin.

"Sounds as though Wakiki's enrolled every lost soul into chanting for his kid. He'll die, though."

"Not if we can foist this mushroom stew off on him."

"I don't think we have a hope."

"If the kid dies, then we lose the planet. It boils down to that. You know the Hynam psychology, Ralph."

"I don't think it would be much loss."

"Not to us, perhaps. But to the Hynams—and to our own egos. Earthmen can't give up as easily as that."

Hill did not reply. They rounded the last bend and saw the mass of villagers cavorting in the mud-packed square. Jenson was there. His big body bulked above the natives and he was energetically trying to make sense of the shouts and imprecations. Hynam language at the best of times was a guttural grunt and hawk, difficult to learn.

Jenson saw them. "Oh Lord! You'll only make things worse."

"Where's the kid?" asked Crispin.

"They wouldn't let you anywhere near him, anyway. As it is—he isn't here. I'm trying to find out just what happened. I only arrived a minute before you, up the other face." Jenson caught at one native, shouted at him and then listened attentively as the Hynam jabbered.

The big construction chief's face grew longer and longer. At

last he looked up crookedly and said: "They were bringing the kid here along the trail when one of their rope bridges broke. Pitched the kid, Wakiki, and half a dozen bearers down into the ravine."

The noise and lamentations around now were fully understandable. Women ran about screeching. Children not understanding, cried. Crispin said: "Well, come on, then! Let's get down there."

"What's the use? They're all gashed and cut. Even if the fall didn't kill them—they're all dead men."

"I'm a doctor, Jenson. Had you forgotten?"

Jenson flushed angrily. He started to say something and then broke off as Hill touched his elbow.

"We can at least have a look, Jenson."

As they turned and began to stride off, going fast, Jenson panted out: "I haven't told you the worst yet. That rope bridge was one we put up. They'll hold all the Earthmen directly responsible for the deaths of their chief, his son and six of their best men."

"Nothing can be worse after this," said Crispin and pressed on after that without a word.

The place was a shambles when they arrived. The ends of the rope bridge hung down, frayed and tattered. Below, scattered along a narrow, rock-strewn gully, they could just make out the sight of a few native bodies where they had been flung when the bridge collapsed. The only access was by way of the chimney, steep, rough, glittering with sharp rock edges projecting like knives. On the edge of the trail, where it stopped abruptly at the chasm and the chimney, stood a group of Hynams, wailing and weeping.

"Is that the only way down?" asked Crispin.

"Yes. That's why no-one has gone down after them. Anyone going down there, padded clothes or not, would be gashed for sure. They might be lucky and only nick a finger—but ."

"But that would finish them," said Crispin quietly. He turned to Hill. "Ralph. Run up to the hospital. Bring all the emergency stuff. Drugs, bandages, injections, the lot. And get someone to bring down that germicide spray; the big power driven one. It might be useful."

"Right, John," said Hill, already scrabbling back up the trail.

"I'm going down, Jenson," said Crispin. "Will you check that there are at least some natives to watch?"

"What? Going down? What the hell for? The Hynams have no use for their dead—and if you bring them up alive they'll have a week of chanting—"

"Use your common sense, man! I know you're only a ganger boss and I'm a doctor—but surely you must see what I have to do?"

Jenson bridled under the insult. He was still simmering when Hill returned bringing the emergency kits and ample supplies. Carefully, Crispin lowered himself down the chimney, feeling the rope around his waist like a belt, tightening, giving him a pseudo confidence. He caught his arm against a rock. He felt the graze and the quick flow of blood.

Above him the watching crowd of Hynams breathed out together in a great "AHH!" of horror.

Crispin shouted up: "That's twice today I've been killed." He laughed and slid down in a welter of rock chips. "This is the day the world changes for the Hynams."

The chimney, a gash in the side of the trail, rocky and precipitous, was a deadly place. Slivers of razor sharp rocks slanted out, their strata exposed and honed by winds and rain. Below him, below the crumpled natives who had fallen, he could see the valley side dropping away sheer to the river far down in a blue haze. If he missed his footing and slid uncontrollably, he had a long drop before he struck. Then he had reached the little outjutting platform which had caught Wakiki, his son and three of the natives. The others had vanished for ever.

Crispin's brain became in that instant an ice-cold mechanism, directing his hands in work which for too long had been denied them.

Wakiki moaned as he turned him over, the old chief's face slashed, his leg broken and his body shrunken in with age. Wakiki's eyes opened as Crispin was sponging off the gash in his cheek.

"Earthman!" the chief groaned, his English slurred and curiously accented. "I am dead—and my son. Keep away."

"You keep quiet, Wakiki," said Crispin firmly, carrying on with his work. "You're not dead. Neither is your boy."

The chief attempted to move.

"Shut up and lie still!" Crispin said firmly. "If you thrash about we'll all be over the edge."

He felt the worst sort of cheat, as though he had been deliberately flouting all that he held most dear—but he had had

to **make** sure the chief saw what was being done. He brought out the primed hypodermic. Wakiki's face stiffened in horror. He moved the fingers of his one sound arm. Crispin felt profound pity for the pain—and contempt for himself.

"This will save you, Wakiki," he said, and thrust the needle home.

When the chief was still and bandaged up, leg set and a generous dusting of anti-polygerm scattered over everything, and when his son had been attended to and the three natives likewise dusted, swabbed and cleaned up, Crispin sat back on his heels and gulped in long lungfuls of damp evening air.

He wiped his forehead with a shaky hand and lit a cigarette. The flare of his lighter nearly blinded him and only then did he realise how late and dark it had grown.

At that moment a flood of harsh yellow actinic light burst from the trail. Jenson had fixed up a lighting system run from a truck and was shining the light down the chimney.

"All all right, Crispin?" he shouted.

"Yes. Send Ralph down with some tea and grub, will you? And mind you keep some natives there all the time. I don't want to waste my time down here."

Hill slithered down, sustaining minor cuts and bruises and bringing a thermos of hot tea and a pack of sandwiches. He looked about at the unconscious figures.

"Quite an operating theatre you've got yourself here, John." His tone was light, yet Crispin detected the underlying note of anxious sympathy. "Everything okay?"

"Sure. Didn't want you down here—wanted to hog it all to myself." He laughed, surprising himself. "And I must have some Hynams up there at all times. Impress that on Jenson."

"Will do."

And that seemed to be that for the night. As the dark hours rolled on the chanting and weeping from above slackened and Crispin had to shout up to make sure that some natives were still there. He told Jenson to keep the lights running all the time. In the glare his eyes ached; but he knew that anyone looking down would be able to see him and the bodies of the natives in plain view.

It grew cold. Then, amidst a racket of waking wildlife, the sun rose—the alien sun—and flooded light down to dim the artificial lights that Jenson had kept going all night. Then began the arduous labour of slinging ropes and arranging alpine cradles and hauling the natives up to the trail. Many willing hands laboured

on this—alien as well as terrestrial—hauling Wakiki and his son and the natives free of the chimney to lie all in a row on the trail.

Crispin had ordered Hill to descend to supervise the lifting arrangements and had preceded the injured to the top. Now he felt profoundly thankful that he had done so.

As the natives were laid tenderly on the trail a horde of screeching women pounced. It was quite clear—horrifically obvious—what they were going to do.

They were about to rip off the splints and bandages, tear away every vestige of the terrestrial medicine they could see.

Crispin took Jenson's gun from its holster and showed it to the natives. They knew what it was, all right. Through Jenson's startled and enraged bellow—the man was as tired as Crispin, he guessed—he said savagely: "Any one who tries to touch these men on the ground gets shot! Understood?"

The natives drew back, panic stricken. They were normal, simple, good folk. They did not understand force—they had never used it themselves. But they did know what a gun could do—that had been demonstrated to them very early on. Now Crispin threatened them and they cowered, wondering, looking from their injured kinsfolk to the gun and back. Their chanting and screeching mounted in intensity.

"Jenson! I want a permanent guard on these injured men. Twenty-eight hours a day. Got it! That's a direct order from the Director of the Medical Section on this planet."

Jenson was angry and startled and tried to bluster.

"By God!" said Crispin. "I'll not have my work ruined by this superstitious nonsense! I can't watch these people all the time—I need sleep. But if you let so much as one bandage be ripped off before I say so—I'll have you kicked out of the Service, Jenson! And that's a promise."

And Jenson, looking at Crispin with suddenly open eyes, saw that it was so.

After that there was nothing much left to do but catch up on his sleep, check that Hill was carrying on the treatment thoroughly and using his power-driven spray to cover the area of the hospital with a fine mist of germ destroying vapour. Outside the tented hospital, where Wakiki and his son and people lay slowly recovering, a permanent settlement of native huts and hovels grew. More and more Hynams flocked in. Work, to Jenson's infinite anguish, stopped on the dam.

"It'll be worth it, Jenson. When they see that their chief

and the rest recover, they'll believe us. They'll work like beavers on the dam."

And, in due course, that was so.

Wakiki, restored to hobbling health, showed himself to his people. The long-drawn "Aah!" that greeted him reminded Crispin of the sigh that had arisen when he had slid down the chimney. Wakiki raised his hands for silence.

What he said, Crispin had no need to follow. He knew it ahead of time—and rejoiced. As the natives trooped off to work on the dam, with Jenson explosively issuing orders, he turned wearily to Hill, sitting in the flap of the tent.

"That worked out according to plan, Ralph."

"I can see that, John. But you took an awful risk."

"Risk? Nonsense."

"Why? Your plan to doctor their own goo with effective drugs was no more wild——"

"That was a trick born of desperation, a device to cheat them. But going down that chimney and treating injured men—that's what we are here for, Ralph. That was just part of our job."

"And once you had done that you had to make sure that they watched you all the time, that they saw that their chief and his son did not die as they knew they would because you had cheated death."

"More or less. When Men go out to the stars, Ralph, they cannot be stopped by minor obstacles. We have a worthwhile job to do. It's up to us to do that job. We cannot allow ourselves to fail."

A native Hynam hobbled up the path towards them. His leg was badly gashed and blood stained the rag bound roughly about it. He stopped before them, looking up into their eyes.

"Earthmen," he said in his execrably Hynam English. "Heal me as you healed Wakiki, my chief."

Crispin smiled and reached out a welcoming hand.

"Now," he said. "Now our work really begins."

H. PHILIP STRATFORD



Cold Storage

Supremely confident, he ignored the threats of his enemies and ridiculed their promises of swift and deadly retribution

Illustration by Kenneth Barr

Gard Lorus, ex-Regulator of Mars, who was famous for his magnificent and spacious offices, woke up in a tiny room.

There was a low green dome overhead, green walls and ceiling all in one. He sat up in the bunk—he was dressed in a grey coverall like a spaceman's outfit, or a prison uniform—and looked around with interest.

There were no windows in this dome-shaped affair. Everything was Space Force Green, the pale, restful green of spaceship interiors. The room was small but the furniture didn't clutter it. The bunk he was on; a green metal chair; a green metal table with a lamp on it; a bath-closet; a supply cabinet. Fitting into the curving wall was a phone-booth airlock. A spacesuit hung near it.

Lorus remembered his space-soldiering days. He was in a Clarke hut.

To wake up in this, after palaces!

But he felt optimistic, in spite of it. They hadn't killed him yet. And from the looks of things they weren't going to.

For this was no ordinary prison cell. This was a Clarke space hut, and by definition, space huts were for space; that is, for worlds whose atmosphere was nothing but space. This meant he was not in a Martian prison, but on some airless world. Although Mars might qualify as a nearly airless world, space huts were seldom used on Mars. They lacked the comfort and the many features of specialised Mars habitations.

The spacesuit seemed an invitation to Lorus to go out and survey his new Alcatraz. No guards were in evidence.

He got to his feet and stretched. He felt a little rusty, but in fairly good shape. He'd been in a hospital on Mars recovering from the wounds of his capture, the last he clearly remembered. They seemed to be all healed now, so it must have been a long time. They had kept him under drugs, apparently, but there had been periods of consciousness. He recalled being carried through the airlock of some spaceship, and being in several different hospital rooms. Time enough, he thought, to take him out to Pluto if they wanted to.

So this was exile. Well, it could have been worse.

One more score for his faith in the indecisiveness of councils.

He must be on some lonely planet or satellite, some Saint Helena of space. As with Napoleon, they didn't have the nerve to kill him, lest it react unfavourably on the public.

So all was not lost.

In the cabinet, Lorus found food, water and other supplies. An oxygen tank was labelled "1,000 man-hours". The gauge said threequarters full. He closed the cabinet and examined the rest of the room.

There was nothing anywhere but the standard Clarke hut equipment. Less, in fact. He noticed bolt holes and marks where some equipment had been taken out. Luxury items, no doubt. They didn't want him to have any luxuries.

That was a good sign. They wanted him to "repent" of his "war crimes". That meant they weren't going to do anything else to him.

He saw a paper on the green table stuck under the lamp. He hadn't noticed it before. It was a letter, on United Mars stationery, and in the familiar shaky handwriting of his old enemy, General

Seward Smith. "Sandstorm" was President of Mars again, he supposed.

He read aloud, "*Supplies for a month. This ought to keep you from starving while you await the liberation.*"

What did that mean? Would they come back for him in a month, set him free? A promise of liberation—what an archaic word for Sandstorm to use—after a month of penance? Smith meant a Martian month, of course, only slightly different from an Earth month, since there were twenty-four of them instead of twelve. "Liberation" must mean *his* liberation—Mars had already been liberated, from *him*.

So they didn't intend to starve him to death—maybe they thought he would go crazy. He laughed at the thought. Gard, the pen-fancier, star-crazy? He had seen more time in the jails of two planets than in office as Regulator. He'd been a regular jailbird, before the revolution. Two revolutions ago, that is.

He didn't see the hand of Sandstorm in this—practical, indomitable Sandstorm. He saw other hands, the Council probably. He knew Smith wouldn't settle for anything less than death—someone had forced his hand. It must have been the Council. A bunch of chickens—*he* had never had a council.

Apparently they expected him to repent, or confess, or something. Why should he feel guilty? He'd done nothing illegal while Regulator. He had just cut a few constitutional corners, that was all. The Martian constitution was a sham, anyway, with its nonsense about rights. There was only one right—the right to have the best man for Regulator. He'd been a benevolent dictator—the most permanent kind, they always used to say, because the most appealing to the people, and he agreed with them. The common people had little appreciation of democracy. They'd soon forget their useless rights, and remember that he had banished insecurity.

He figured this temporary exile must be a compromise between the death demands of Sandstorm and the tenderness of the Council. A decision put off for a month—who knows what could happen in that time? Lorus was a keen political analyst, knew it and constantly took advantage of it. That was one of the abilities that brought him to ever-recurring leadership—that and personal charm.

He put on the spacesuit. He had a little trouble operating the airlock, until the old tricks of forgotten practice came back to him. The airlock was just big enough for one man in a spacesuit,



but it was efficient and fast. He was soon outside on a hard surface, coated with a thin layer of dust, like new-fallen snow.

It was night, or at least he was on the dark side of some world. It was cold, for the heater in his spacesuit immediately burred into activity. Above him were thousands of bright stars, horizon to horizon, as only an airless world could show them. He saw a brighter star which he thought might be one of the planets, maybe Jupiter. Too bad he wasn't a navigator, or he could find out where he was just by looking at the stars.

He might be on one of the asteroids. But he realised they were all very small, and the gravity here seemed not much less than the normal on Mars. Or he could be on one of the big satellites of the outer planets, or on Pluto itself. The mountains on the horizon, jagged and barren, reminded him of Earth's moon, Luna, where he had spent some time. But he couldn't be on Luna—it was too civilised and built up. They wouldn't take the chance of his walking a few hundred miles to the nearest settlement. For there was no stockade or fence to be seen—nothing but the slightly uneven ground extending in every direction to the mountains, an uncertain distance away in this airlessness, but possibly twenty or thirty miles.

They had set him down in the middle of a vast crater or ringed plain. But this didn't prove he was on Luna. Most airless worlds had similar topography.

He walked out on the starlit plain a quarter mile, then walked back again. His tiny hut looked small enough close by, without getting too far away from it. It was cold, and the spacesuit heater worked constantly. How cold, Lorus didn't know, but he thought it was pretty near down to absolute zero.

The ground was hard. He could not have touched it with a pick, even if he had had one. There must have been a lava flow here, millions of years ago. It was difficult to imagine this bitterly cold surface as once being warm. It was a solid expanse of hard lava under a thin coating of meteoric dust. Well, he had no intention of digging any tunnels.

He went back to the hut. It looked even smaller after being outside. He explored its interior again, all too quickly.

Nothing to read, no television, no command performances. Well, that wouldn't bother him. Not Gard the jailbird. They had misjudged him again.

So they spoke of liberation, did they? Maybe they would be forced to put him back in the government, too. Then he would—oh, there was plenty to think about, to while away the time. Only a month. This was Elba, not Saint Helena.

Lorus wished he knew just what planet or satellite he was on. Not that it would do him any good to know—he would have to wait for a government spaceship to pick him up anyway. He'd been the last man out in the revolution, so he had no organised followers left to rescue him, even if they could find out where he was. He figured this would be an Absolute Secret Elba too. Maybe known only to Sandstorm himself.

It was interesting to speculate on this, and it would help to occupy his mind. Imagine the great Regulator, between reigns, spending a month on a world of which he did not even know the name. And when he came back, Sandstorm might not tell him either—he would have his little joke. He might be forever in the dark.

It crossed his mind that he might actually be on a wild spot of Luna after all, and that a railway or transmission towers were just beyond the horizon. Within reach of freedom but expected not to try for it. But no—there would always be the chance he might decide to seize the opportunity and escape. And Sandstorm wouldn't take that chance. There was too much at stake.

He wondered if this could really be Pluto. It was cold enough. It was a long journey to Pluto, but he didn't know how much time he had spent in ship hospitals. Pluto was a little smaller than Mars, he knew. This would account for the gravity. Then there was a large moon of Neptune. They certainly had him out beyond civilisation anyway.

He'd have to write a book about it when he got back. Sort of a modern *Mein Kampf*. He could call it *In The Dark*, or *In Cold Storage*. He calculated he'd have a few months awaiting trial, leisure time, before getting back to the turmoil of politics and government.

For he was certain he'd get back into power. Sandstorm was tough, but Gard Lorus of the charming personality could twist the Council and the people around his little finger. A nod of recognition here, a confident gaze there, an uplifted chin—first they would feel sorry for him, then wonder why they were keeping him prisoner. He would make a speech in which he would say he would humbly accept his punishment, et cetera. Once he had played the part of Mark Antony, in Shakespeare's *Julius Caesar*, and with some success—it was right in his line.

He began to figure how he could even turn the trip back into a triumphant homecoming. A whisper to the guards, a wink to the mess attendants, and by the time he reached Mars he'd have the whole ship's crew secretly on his side. And what wouldn't he do at the televised trial? Why, he'd have them fighting with one another within a week, first as to his disposition, then whether he was to be disposed of at all, then what compensation to give him.

The only fly in the ointment was Sandstorm. But he was only one man.

So Gard Lorus spent his month on the lonely world not without confidence in the future.

He spent most of his time in the hut, walked out only for exercise. It was always dark and cold outside, which made it somewhat risky to be in a spacesuit too long. The heater might fail, from overwork, and let him freeze to death. For it wasn't a spacesuit's normal environment to be forever in shadow, forever cold. The hull of a spaceship, or the surface of an asteroid, was usually an alternately hot and cold place, or both simultaneously, with a comfortable average maintained in the spacesuit by the temperature adjustment mechanism. But this place was cold all the time. It must be the darkest part of the coldest world in the

system, it seemed to Lorus. It had to be Pluto. He tried to estimate how long the trip back would take, when the ship came to liberate him.

He wondered what was going on now, what debate was sounding in the Martian Council chamber. The revolution over, there would be peace-problems once again. They would be debating the issue: what to do with Gard Lorus, ex-Regulator.

He could imagine what had happened so far. Sandstorm had captured him, then (honest old fool that he was) had gone to the Council to ask for his execution. He imagined them saying, *keep him in prison for a month or so, until we can have a trial*. And then Sandstorm protesting, *he may have followers on Mars to break in and free him, he must be got rid of before that happens*. Though President of the Council, he wouldn't be able to sway them. They would think the people might resent it, they wouldn't know what the people wanted, they might even want Lorus back, and death is so permanent. He could hear them saying, *put him somewhere safe for a month, by which time public opinion will be crystallised*. Sandstorm wouldn't like this, but would have to give in.

But from the presence of the short note Lorus gathered he was still Smith's private prisoner. So he would keep him for that month where he wanted to keep him, where no one could get at him.

Whatever the argument, the Council had evidently won out. Here he was safe and sound, with Sandstorm probably having to guarantee his safety.

The old general was bound hand and foot, because he was a man of his word. At the end of a month he might fall from power and they'd welcome Lorus back. Or, as Sandstorm was probably hoping, there would be an opposite trend to public opinion in which he would gain a firmer grip, and Lorus would stay here until his supplies ran out. This didn't sound like Sandstorm though—he would want to be more certain of his prisoner's fate.

They were old "friends", he and Sandstorm. Their first meeting was thirty years ago, the day Lieutenant Seward Smith of the Polar Cap Patrol had arrested Louie Gardner, the prominent young water merchant and ice thief. And then, twenty years ago, when he had become Gard Lorus and a small-time dictator of a section of Mars, Smith was on the makeshift Council, battling for a united planet. He had succeeded in uniting it, just in time for

Lorus to take over. And that last meeting, during the recent war.

It was during the ill-fated truce talks, when they were alone in the little baggage-room on Deimos, all the others having been cleared out at their request. After everything had been settled—they had agreed only to discontinue the truce and resume fighting—Sandstorm had said to him in a low voice, in as threatening a tone as Lorus had ever heard him use, but just barely audible, "If I ever get my hands on you it won't be exile, no, or prison either. You'll fry." And he knew Seward Smith as well as anyone, and knew he meant what he said.

Oh, Sandstorm and he understood one another. If it were merely a battle of wits between the two of them, he would have some doubt of the outcome.

But there was only one Sandstorm. There were lots of sheep.

It was funny how Lorus believed so strongly in his own gift of prophecy. But he had good reason for doing so. He had planned the gradual conquest of Mars and it had worked out very close to his blueprint. He had the gift of understanding human nature, that was the reason. The character of Seward Smith, too, was no mystery to him. Sandstorm was the one man he really respected, yet he understood his nature—hard-headed but honourable. That was his weakness. Many another man would have got rid of Lorus at once, and taken the consequences. Not Sandstorm. Well, maybe that was how he had got where *he* was.

He was now probably taking the issue to the people. It didn't matter. Even if he convinced them their best interest was to do away with Lorus, the "return from Elba" would reverse the whole thing. In the meantime, he would try to fix this Elba in his memory, so that he could come back later and erect a monument here. He'd preserve the hut as part of it—the whole crater as a national landmark. With a well-lit spaceport, of course, and tourist ships weekly from Mars.

At times Lorus thought of walking to the distant mountains, just to see what was beyond, but he finally decided against it. He didn't know if he could make it in the spacesuit. And he was nearly convinced he would get no better view from the mountains than more mountains, craters and volcanic plains. And then the heater might break down. The heating system in the hut was larger and more reliable. His best bet was to stay right here and wait for the liberation.

Oh, well. He had been in worse holes, and for longer times.

It was cold, that was all. It was a tiny hut and a spacesuit—but he didn't expect them to provide him with a car and mansion.

The more he thought of it, the more he was sure it was old Sandstorm carrying out the Council's instructions grudgingly. Ordered to keep him alive and well, but determined to see that he was not happy.

Sometimes he had a feeling that he might have underestimated Smith. He had got help for his precious United Mars, had gone to Earth and somehow conjured up an army for the second revolution. So he may even now be stirring up the people of Mars to try him *in absentia*. If they did that, with or without the Council, there was the possibility that they might condemn him to death. Without his personal presence and hypnotic appeal they might do just that.

But he could count on the Council not to let Sandstorm carry out the sentence. He would have to get a ship to do so, and they would insist on accompanying him. In that group there would be a pro-Lorus bloc, and they would tie Sandstorm's hands. That would be only the beginning.

In any case, he was safe enough here. Plenty of supplies and heat, and a promise of liberation when the month was up. And after that. He wondered if they had damaged the Regulator's offices any. He didn't think they'd dare.

Lorus had no watch or calendar, but his lessening stock of rations helped him tell the time. There was no danger of supplies running out—they were more than ample, and he also used them sparingly. They could easily be stretched out to a month and a half, or maybe two. Even the oxygen, if he didn't exercise too much.

It was near the end of the month and he was outside watching for a spaceship, when he saw the strange thing on the horizon.

It was a bright spot of light on the mountain, twenty or thirty miles away. At first he thought it was a volcano come to life, but it didn't look like one. It was whiter than he thought a volcano should be. It increased in size, widened along the tops of the mountains, and now he could feel the heat from it on his faceplate. What was it? It seemed to be slowly spreading down the mountainside, becoming too bright to look at.

He was forced to turn away, and now he saw, in the opposite direction, above the other mountain-horizon, something different. Not so bright, but redder. Red tongues of fire. And as his eyes

regained their vision, he saw also a white hazy glow, hiding the stars.

The heater in his spacesuit clicked off. It was no longer necessary. He began to feel the heat on the back of his helmet, from the blazing mountains behind him, but he continued to gaze, fascinated, at the weird red streamers of fire. They seemed to be growing longer.

Lorus cursed his captors. What were they doing, hemming him in with nuclear fire? When was the liberation, anyway? Sandstorm.

Suddenly he knew where he had seen effects like these. The silvery, hazy glow, the red tongues of flame, eye-searing, opposite *reflection*.

He hurried into the hut, now uncomfortably warm as it had no cooling system. This was one of the "luxuries" that had been taken out.

Quickly removing his spacesuit, he searched for the letter, found it, confirmed his fears. He had misread it the first time.

It didn't say "*liberation*", it said "*libration*".

Libration—that was some sort of a *motion*. A wobbling, back-and forth motion, peculiar to a satellite that turned the same face to its primary. Luna, at times, showed parts of its surface to the Earth that otherwise would not be seen, without libration.

But Luna's two-week night wasn't affected by this motion, only its aspect from Earth—and he had known he wasn't on Luna after two weeks of darkness had passed.

But there was one planet that behaved in this manner, he remembered, where a certain borderline area could be in complete darkness and cold for months at a time, and then, due to libration, be suddenly exposed to the heat and light of its primary, the sun.

And there was no "twilight zone" or "temperate zone" on airless worlds, he knew. There was only a "variable zone", that changed periodically from day to night and back to scorching day again.

So now the sun, less than forty million miles away, was about to rise, over the airless horizon of Mercury.

Sandstorm was right. He would fry.

Hospital Ship

*With Earth teetering on the very brink of disaster
almost any means of defence could be justified*

Illustrations by Kenneth Barr

While the stretcher was being pushed gently towards the deck, alarm bells jangled in the fighting ship back through the two connected airlocks.

The stretcher jerked, clanged on to the metal, jarring its occupant's broken arms. Wincing, he closed his eyes.

Boots scraped and clicked on the magnetised floor. His fear drove back the pain threshold in his mind and he opened his eyes. The men who had carried him into this bigger ship were running headlong back without him. One dived, wordless, through the connecting tube; the other twisted as he glided through.

"Good luck, Lieutenant!"

Hatches whined shut. Light glared from a porthole to the left of the hospitalised casualty. Metal screamed and rang around the shut hatch. Engineers had misjudged blast away, firing the rockets just before complete disconnection. But the harsh vibrations were dying and the glare winking along the line of portholes.

One by one the portholes darkened. Silence crept in behind the departing vibrations. Lieutenant Cliff Heron's ship had gone. Lying strapped to the stretcher, he wished her luck.

In this war of annihilation, 12,000,000,000,000 miles from the Solar System, she had already survived five weeks in the battle area.

Cliff closed his eyes. Shock was still making him drowsy in spite of the first-aid measures.

Curse the war! Curse the inhabitants of Alpha Centauri who prosecuted it with such fanatical ferocity! Curse the inventor of the Nuclear Drive which had turned man's inquisitive nature towards the nearer stars.

Alpha Centauri was one of the nearest stars. The nearest! Light travels at 186,000 miles *per second*, but light took four and one-third years to travel between Sol and Alpha Centauri. The mind staggered when confronted with the reality of such terms as lightyears.

The nuclear drive made the journey seem feasible. Mass-power ratio made possible a final ship speed through the near vacuum of Interstellar Space of nearly three-quarters of the speed of light. Including the time taken to accelerate to this peak velocity out of the Solar System and to decelerate down from it as the ship neared Alpha Centauri, theoretical considerations suggested a voyage lasting six years.

Twenty-nine years before Cliff Heron's ship reached the battle line, an exploration ship had been built and despatched. Certain "teething" difficulties slowed the voyage a little but eight years after departure, this ship reached its destination. The messages it transmitted back, travelling at the speed of light, took another four years and four months to reach Earth. It was, then, over twelve years after its departure that Earth learnt of its findings within the planetary system of the newly reached star.

As was known from telescopic observation, Alpha Centauri is a binary star, that is, it is actually two suns which revolve about each other, centrifugal force of this revolution balancing the attraction of their gravity. The exploration ship charted thirteen planets, seven about one of the suns and six about the other, and suggested cautiously that one of each of these systems' planets might hold conditions suitable for human colonists. And that was all.

For nine months humanity waited for further messages. Then in a mixture of curiosity, determination, and anger against a supposedly wanton destruction of the ship by some force or life form

unknown, the huge funds necessary for another starship were raised, and its construction started with very little delay.

Making better time than the first, it made the long haul. The messages it sent back would be at weekly intervals in relation to itself, but the increasing distance gradually spaced them further apart for those back on Earth who waited for news.

Four and one-third years after it had actually sent news of its arrival and of what its captain thought to be *alien space ships* coming to meet it, this message reached Earth—and was followed by a blank silence suggesting the worst.

Thus, twenty-six years after the despatch of the first exploration ship, steps were taken by an indignant human race to do by force if need be what did not seem possible by friendly means.

Further delay seemed only irritating and so each small fleet of ships was sent out as it was completed, so that successive waves drove like a long arm out into the vastness, those behind able to support and converse with those in front, linking up Earth and her punitive expedition.

There was, however, still the delay in getting messages all the way back, just as before. No war had ever been embarked upon in which the battle was so cut off from its commanders.

As far as the Earth ships were concerned, the existence of Earth seemed to become less real as the years passed in time and the billions of miles of space were eaten up.

Each wave of ships became known by the year and the month of its departure, in relation to the first exploration ship. The first small wave left Earth twenty-seven years after that first doomed explorer, in February. Thus it was called 27 Feb. The wave in which Cliff's ship was one of four fighters attached to and guarding two larger maintenance ships, was the eighth to be despatched, but, leaving Earth in January of the 29th year after man's interstellar beginning, it was known as 29 Jan.

It was almost three years in Space when messages began to come back from those ahead that huge enemy fleets, all modelled on the first Earth-Centauri Ship, were attacking the voyaging column, systematically wiping out wave after wave.

The officer in charge of Cliff's wave had to hold in his mind the fact that the messages he was getting were at first two years old, and that it would take two and one third years for a message to travel from his own position back to Earth. To that extent, each commander, isolated by time and space, was on his own.

From the content of further messages which came with increas-

ing frequency as time delay and spacial distance lessened between his wave and those meeting the oncoming enemy, he had to form his own battle plan besides conforming to the overall planning agreed upon by the conferences which had organised the expeditionary forces back on Earth.

To increase chances of dealing the enemy a violent blow, he began to fall back along the column towards the wave behind him. Since the waves had been despatched at irregular intervals it was not thought that the enemy would be alarmed by a long interval between conflicts, and it was hoped that a doubly hard blow, delivered on the heels of the previous one might catch him less well prepared.

And, as well as this principal idea, it was of course becoming policy to match speed with the oncoming enemy. Thus, falling back in strategic retreat at about a quarter of the speed of light, the Jan 29 wave waited in blacked out silence to strike their own blow for Earth before, as now began to seem inevitable, their own ships were added to the debris of interstellar battle.

Presently, as the great Binary system grew near, the detectors on the Terra ships gave warning of the approach of an alien fleet. Almost immediately came the news that they had captured a small lifeboat containing the first Alpha Centaurians ever to be taken alive and then General Alarm that attack seemed imminent. In the communications room, under radio silence, there was little for Cliff to do beyond checking the photometer system by which the Earth ships kept watch—not for the hard to see radar shadows of the enemy, but for their bright, hard to conceal rocket-fire.

Since the Captain had the instrumentation of this equipment installed on the bridge, Cliff's first intimation of actual contact with the enemy was a brilliant flash and a din like the ship falling apart. He found himself looking at the mangled remnants of his arms, and fainted. Regaining consciousness, the M.O. told him he was the only casualty. He had made the long voyage only to fall victim to a radioactive splinter thrown back by a Terran bomb, which had destroyed the enemy ship before it had fired a single shot at them.

From their treatment of him after that, he began to suspect that the state of his arms was only his smaller worry. Radiation from the splinter was expected to kill him in due course unless he had full scale medical attention not available on small ships.

He was not surprised, therefore, when, his ship falling back together with a confused and incredibly scattered mêlée of other ships, his Captain chose to put him off on to a hospital ship which they happened to approach within the scattered conflict.

But now he looked around and began to think that it was an odd hospital ship. The silence of it crept into his mind, frightening him. Not even the whisper of air circulation made a background to reassure him. The room in which he had been dumped, being in the nose of the ship, was nothing more than a casualty reception entrance. A bare metal box, fitted only with the hatch through which he had been pushed and two other hatches which led inwards, presumably, to where the swelling hull's centrifugal spin gave a semblance of gravity. With neither up nor down, no north, south, east or west, with light only from a single one of a cluster of tubes in the "ceiling" and only the stars moving endlessly past the portholes as the ship spun in silence, he might have been alone in the ship—or the universe for that matter.

All the portholes to his left filled with the eye-blasting blue of a silent explosion. The very breath caught in his throat. His ship?

Terror stalked through his mind as a series of clangs made increasing inroads into his nervous system.

On one of the hatchways leading into the ship, clamps spun. The hatch opened.

A woman entered. Cliff caught himself panting, and clenched his teeth. The woman came towards him. He suddenly felt frightened of her. Her head was bandaged, her back as she bent over him, seemed to bulge under her clothes from top to bottom of her spine. Her eyes seemed to wander as though unable to focus properly on him. As he thought about it, the very manner of her walk had seemed strangely masculine in its heavy footed, arm swinging march? Her hands fumbled with some kind of kit at her belt and he heard the familiar chatter of a radiation counter before it was clumsily and hastily switched off.

Without speaking, she grabbed hold of the stretcher's handles at the end farthest from him, drawing it after her. Her legs seemed to want to stride in a manner quite unsuited to her rather tight, uniform skirt, her eyes rolled as though only partially under control. The heavy clanging of her metal shod boots sounded oddly at variance with a slenderness that approached thinness.

When she reached the hatch she fumbled over the handle, gasped in a girlish treble something that might have been "Hell-fire!" and then repeated the same unclear exclamation in an artificially deepened voice. She glanced over her bandaged shoulder in a stiff necked, awkward way. Her cheeks had suffused with a charmingly pink blush which contrasted horribly with her twitching, writhing lips and unsteady eyes.

Cliff swallowed hard. "What ship is this?"

She turned her back on him, got the hatch open, turned stiffly, missed the handles of the stretcher with her unsteady swaying, but caught hold of them at a second attempt and pulled him after her.

He twisted his head around to watch her seal the hatch as though she were as used to doing so as any Spaceman. She pulled him along the passage, going confidently through patches of darkness where light fittings no longer functioned. As they moved back from the nose, on the inner skin of the double hull, towards the thickest section amidships, they moved outwards from the axis on which the ship still spun, and Cliff felt the comforting drag of centrifugal force simulating gravity. Soon it would be possible to stand and walk without magnetic boots.

A communicating port "above" cast light into the passage, looking up, into the heart of the ship, he saw a horror of mashed and mangled human bodies intermixed with a tangle of debris. The only carnage he had seen before was the lone instance of himself, when the missile splinter had come back to damage him. He was lucky to have escaped with his life.

Another porthole "above" drew his eyes in spite of a de-



sire not to look. More shapes, mangled as before, but even more grotesque, sent a chill of horror along his spine. And then he realised these were bodies and parts of bodies of a variety of terrestrial animals which had suffered the same fate as their human masters. He had heard that, in anticipation of a possible landing on one of the Alpha Centauri planets, experimental animals together with cattle and sheep in small herds had been included amongst the cargo by some nationals powerful enough to finance their own part of this strange and remote war.

Remote? Cliff drew a deep breath. Every day brought the enemy closer to Earth and the struggling colonies on the Sun's other planets. Even at the speed with which the Earth column of battle was falling back on itself, the warnings of invasion which were continually being transmitted back would not give humanity much time to prepare against the overwhelming force which poured fresh ships continually into the fighting. The Centaurians, copying the design of the first interstellar ship from Earth, had been organising for all out war for decades.

A larger than usual gap in the lights depressed him. The unnatural panting of the strange human drawing him onwards through this damaged ship billions of miles out in nowhere rasped back and forth across his nerves.

Movement stopped. Clothes rustled. The feminine voice uttered unladylike exclamations which might have been a string of oaths. The poorly coordinated creature grunted with effort and at length mechanisms whined and clicked. A curved line of light widened as a hatch swung open in the side of the passage.

Cliff craned his neck. His escort pulled him through, then turned to fasten the hatch.

Two stretchers, made up as beds, stood in clips between observation ports in the metallised floor—which was also the hull of the ship. This was—or rather had been—the observation and exercise “deck” of the ship.

Cliff encountered a pair of eyes looking at him awkwardly over the pillows of the left-hand stretcher. Black, curly hair and an ebony skin enhanced the whiteness of the eyeballs.

“Welcome to Dr. Brown's miracle hospital,” said a friendly, slightly mocking voice.

Cliff grinned hesitantly back at the eyes. “Your voice is music to my ears. What sort of place is this?”

“It was a Biological Study ship; what's left of it is a hospital, I guess— Hell! Here they come again.”

The strident scream, familiar enough to Cliff from what had seemed to him an inordinate amount of action stations training, of the radar warning system, cut short the explanation.

Cliff felt his stretcher given a shove. It skidded forward to come to rest against the stretcher of the coloured man, between it and the other.

Boots clattered on the metal and glass of the deck as the person who had brought him ran off towards an open door from which was coming the characteristic thuds of guns which were out in the void and consequently soundless except for their recoil against the hull.

"You can see what's happening," said the man in the stretcher at Cliff's side. He pointed downwards. "I don't understand why they don't blast us to atoms and be done with it."

Cliff tried to see over the side of his stretcher but could not move for the straps holding him down. He winced as he tried to wriggle up higher on the stretcher. The pain-killers were wearing off and his arms throbbed so that sweat beaded out on his skin and he slumped down to take the pressure off them.

Bare black arms reached over and struck aside the quick release fastenings. "Now look."

Cliff wriggled cautiously up, leaned over, trembling with the pain attendant on the action but determined to satisfy curiosity.

A rocket tail was idling away into the starry background. A dark shape was swelling like a disc to cover a patch of stars. Tracer shells were flaring to meet it, bursting their splashes of light on its nose armour—and doing damage which although slight in itself, was dangerous to the closed world of a ship in the void of space.

"One of them's turned away. The other's coming straight at us. Wonder why it doesn't blast us. It blasted the ship that brought you."

A shiver ran up Cliff's spine. The ship in which he had spent nearly four years of his life—snuffed out. The men, with whom he had yarned and played cards and expected to die if necessary, all gone, burst in an instant's fury of the nuclear explosion.

He looked again through eyes, which had been rendered momentarily sightless to him. The ship, which had seemed about to ram, was lifting to pass overhead. The small explosions of tracers still hammered at it, now coming from several fresh sources in the hull of the hospital ship as the enemy passed by.

The black, involved insignia of the Centaurians showed in the flicker of flames, and then it was gone.

"Two more ships coming," said the negro. "Can you see them?" His magnificent eyes, evidently sharpened by long years in Space, scanned back and forth across the broad segment of the heavenly sphere framed by the glass. "And there's another star winking. More of them coming. Are we in their line of passage? Or is there something they want of us? *Why* don't they blast us?"

Cliff's imagination failed to register the incredible dangers of five or more hostile and murderous Centauri fighting ships. A man can die only once, whether from a bullet weighing an ounce or a fission missile weighing a ton. He began to take further stock of his immediate surroundings.

The length of the exercise deck was bare metal and glass except for the three stretchers. A few paces off, the metal of the floor seemed to have lifted in a kind of ripple. Facing this, on the walls and ceiling were matching indentations, although the welding had held. Several puncture holes, some inward from the axis about which the ship revolved, and some outward showed that the ship had been caught in high velocity small bore cross fire during some earlier battle. Bloodstains streaked the floor near these, evidence that there had been living things present when the ship had been struck.

Cliff turned his head a little and caught the negro's eyes upon him. "This part of the ship," said the man, "was the only place where conditions held. The rest of it was holed badly enough to open up to Space, or whirled hard enough to batter everything living to pulp."

Cliff's eyes narrowed. He had seen that for himself.

"Even here," said the negro, "we were all flung about. Or wounded. Fortunately a biologist called Brown—a man, I'm sorry to say, I never liked very well—suffered no serious injury and was able to tend to the rest of us. There were eight of us, all laboratory workers, here. He has been taking us away from here one at a time, and doing what he can. I don't know what he has done to the others, but he has fixed me together again. My backbone had multiple fractures, but he told me that the spinal cord was intact. I am anchored by the cast he has moulded around the wired-up bone fragments, but he says I will be all right. He seemed sorry to say so, as though he'd never liked me very well, either."

"I'm glad," said Cliff, "that you're going to be all right. Er—my name's Heron—Cliff Heron." He stopped himself from

saying "Lieutenant" Cliff Heron. Rank and title seemed to have no meaning here. "What's yours?"

"Link Lagel."

Little flickers of light were coming in from Space to remind them of the presence of the enemy.

"And still more ships coming," said Link. "What are they trying to do? Are they testing their ships by exposing them to the reduced but still pretty potent fire of this derelict?" He pursed his thick lips. "Wonder how much ammo is available for the guns?"

"It'll be coming down automatically from the magazine," said Cliff. "If nothing jams, it will run for about twenty-four hours continuous fire—longer if the autofactory is turning out shells although I suppose it'll have been bust up by the hammering you took. . ."

His voice faded away as he looked for the first time at the other stretcher. A vaguely human shape, swathed completely in bandages, shocked him with its suggestion of terrible injury. A suspended blood drip came from the largest bottle of reconstituted blood that Cliff had ever seen.

"She was the worst. Brown said that her chances were so small that he had to attend to the others first to prevent them getting infections he was not properly equipped for dealing with. Humans are subject to different things from animals you know, Mr. Heron."

"Call me Cliff—— You said that is a 'she'?"

"U-huh. A very beautiful girl, although a scientist, and prejudiced against coloured men such as I am."

"What a shame, Link." Cliff ignored the faint racial antagonism which had crept into the negro's voice. "Life's grim, isn't it?"

They looked at each other, two badly injured men, thinking of the heartless and mocking ravages of war.

"If I judge her right," said Link, "she was the sort who would rather die than become a monstrosity of patched up flesh and bone. Proper surgery is out of the question. Brown is a biologist; full of wild theories about nervous systems; not a real healer."

Cliff clenched his teeth, took a grip on himself and swung his legs over the edge of the stretcher. He rested, panting. Then he slowly worked himself to a sitting position. Pain blazed outwards from his shattered arms, so that he was not immediately aware of Link's arms steadying him.

"Stop it, you fool!" Link was raving. "Brown's a first class man. Famous all over the Solar System. I've told you what he's

done for men, haven't I? Give him a chance, man! Almost anything is better than losing your arms, isn't it?"

Cliff slowly shook his head. "I've acute radiation poisoning. Decontamination equipment is back near the engines in ships like this, and you said that the rest of the ship apart from this section is a wreck. Even if I was given the whole works, I doubt if I'd stand one chance in a hundred. Leave me alone. I want to have a last look around."

Cliff tried to lessen the suggestion of self-pity and bitterness in his speech by grinning. Even though the pain was passing, vertigo—probably from a radiation reduced blood count—was taking its place, and he did not feel that the grin would be very convincing.

Link slid down on to his back, eyes troubled.

The bandaged girl moved slightly on the other stretcher.

Cliff gritted his teeth and, uncertain whether the flashes he saw were in his mind or coming from outside the ship, lurched to his feet.

"You fool," gasped Link, in an agony of apprehension. "If you fall you'll make yourself ten times worse. Stay erect man! Stay erect."

Somehow mind conquered matter and Cliff felt himself steady—ing, the pain thrilling through him seemed to recede to a background noise and the use of his senses gradually came back.

Like a man seeing dimly through a fog, he tried to put his arms out in front of him. Fresh stabs of agony oddly enough seemed to clear his head.

Between his feet, beyond the glass, a dark shape moved over the stars. Flashes sparkling around it picked out smaller shapes—the enemy was trying to board. But the barrage of small arms fire would be ripping his attack to pieces. Nothing could live through those small but vicious explosions unless it was behind a ship's armoured sides.

Cliff forgot his pain entirely. Behind him, Link's rich, deep voice echoed his own thoughts. "Why doesn't he just vaporise us? Why does he send out suicidal attacking parties like that? What great controlling emotion is there that can make living things go out into the void—where the slightest injury can mean death from a hundred causes which are insignificant within a planet's friendly envelope of air?"

Cliff did not look around. His entire attention riveted on the hatch through which the mannish woman had gone, he stumbled through.

Inside the next metal room, he leaned against the wall, sickness almost overwhelming him. Mind triumphed over matter yet again and he walked, more steadily, towards a wall composed of glass fronted cupboards. He halted, appalled.

Mangled corpses of what had been human beings. In deep freeze unless he was badly mistaken. Something like fifty boxes behind the glass, all full.

He turned, swaying. The only other furniture of this place was a long flat table, a trolley of instruments clamped securely by inbuilt magnets and another wall of cupboards. He avoided all of these things, heading for the top of a vertical ladder which he guessed would lead down through the double hull into the "bulge" which went all around the thickest part of the ship. Weapons in that bulge were now holding the enemy at bay. Perhaps his Space knowhow might enable him to help mere biological staff make the most of the available ammo.

But a vertical ladder cannot be used by a man without the use of his arms. He was looking down at the baffling obstacle when a grotesque shape swaggered along the bulge "below" him.

A monkey! A big monkey. Orang-outang. And it had been wearing a gun, holstered at its side.

While he still gaped, it came waddling back, just within his field of vision. It was carrying a box of pom-pom shells lifted high above its head on long, hairy arms. Cliff's skin crawled at the unnatural thing—growth or attachment—which clung to its backbone from skull to short, unexpected tail.

Cliff backed from the ladder which he could not descend, and which he was not at all sure that he wished to descend. Catching sight of a naked, pink shape moving in a gun turret in the side of the bulge, he halted.

His eyes failed to serve his brain. When seeing the incredible, the brain refuses to credit the evidence presented to it. He blinked, swallowed. And his mouth fell wide open.

A pig. A pig with its front trotters in the guide aimer and firing lever straps which had been adjusted to fit.

Nightmare!

He felt himself falling and went staggering backwards to recover his balance. In his condition a fall might put him entirely out of action. A wall halted him, agonisingly; yet he leaned against it gratefully.

Presently, taking a pace or two away and looking back, he



saw that the wall was transparent. Behind it, light from the place he was in gleamed upon upholstered seats and even as he realised that the seats were for students watching experiments being conducted in this operating theatre, he saw the ugly blunt nose which had smashed its way in through the hull below the seats and now protruded its silent, omnipotent menace through a shattered half of them.

A fusion bomb.

Suddenly his mind began to work. He was dying. He was helplessly maimed. He was trapped by an impassable barrier of interstellar vacuum within a hulk of a ship which appeared to be populated by monsters: a woman who acted like a man; an ape carrying ammunition; a pig at the controls of a gun; a girl so terribly injured that she was swathed in bandages like a mummy; and a negro who spoke of a doctor whom he had not yet seen and now feared to see. The enemy was manoeuvring outside to board at the first slackening of defensive fire. And there was an enemy bomb waiting in the riddled hull until an inconsidered jolt triggered the firing mechanism and obliterated everything.

He looked around in demoralised panic. There was a sort of cage beside the wall of

cupboards which he had feared to approach before. He stumbled towards it.

Through the bars he glimpsed a man and woman, apparently in pinkish tights, squatting on their haunches in a dim corner with their hands over their ears and their heads bent.

"Hey! You!" His voice screeched at them without conscious direction. He dropped to his knees and, unaware of pain in his anxiety to have company, he took the lock of the cage in his teeth, shaking it.

Baffled, he staggered to his feet. And realised that the strange pair had not moved. They were trembling, shaking as though with a fear even more uncontrollable than his own.

A voice below and behind him snapped: "Who the devil was that?"

Even as he turned, feet rattled with accustomed familiarity on the metal ladder. A man in a uniform similar to his own swung off the ladder and ran towards him.

Cliff stared. "John!"

And the man stopped short. "It's the sparks lieutenant. What in Centauri are you doing on your feet in that condition?"

"How did you get here?" Cliff had not expected to see any of his shipmates again.

John Mareello's drawn face seemed to become greyer than before. "Captain sent me off ship with the prisoners. He thought the whole Centaurian fleet was burning Space towards us. He hoped a lifeboat might get clear while he drew their fire. But they flashed him, and started to close on me. I doubled back, saw the lights in this ship, got the prisoners and myself into suits and dragged them between the ships as the lifeboat passed. I hoped the Centaurians would rocket on after the lifeboat, but they turned aside after me almost at once. And they're swarming all around us now."

"I've seen them. Wonder why they don't simply destroy us?"

"Well, I think they're waiting for our ammo to run out so's they can board and capture us. The Professor in this ship thinks they're determined to rescue the prisoners—and that might be right, because we've never had any prisoners before. What do you think?"

"I can't imagine." Cliff couldn't think at all clearly through the haze of pain which surrounded him.

Gunner John Mareello started towards him. "Steady, lieutenant."

"Leave him alone!" howled a command from the ladder top.

Cliff forgot his pain—to some extent now his mind seemed able to control it—and looked that way.

A small man was coming up the ladder, hand over hand, with a passenger's awkwardness. He hurried to them, taking small paces, his pink face contorted with anxiety. "You! Are you the irradiated human?"

Cliff started to nod, but checked the action. It was as though this little man thought of him as a laboratory specimen. "Who are you?"

"Brown. Professor Schnagel-Brown. I'm sorry to have kept you waiting." Light flickered wickedly up from below. Brown waved Gunner Marelllo back to his weapons, without taking his bright, hard, analytical eyes away from Cliff. "I sent him to fetch you. Your mind ought to be stronger than that of the other hopeless case. Come over to the table and let me examine you. Your central nervous system has still to be in good order for me to do anything for you."

Cliff's senses were beginning to rebel. Pain and shock were beginning to have their way with him. His mind was trying to reject everything presented to it. Everything seemed to be getting further and further away.

Clifford Heron! Wake up, now. Come on, Clifford Heron, you can do it."

For a dreadful moment, Cliff thought there was something trying to stop him awakening. Dual personality. Schizophrenia. He did not want to be abnormal. He sat up with a jerk.

Brown's small face, puckered up, watched him intently. "You are Clifford Heron?"

"Uurgh." Cliff blinked. He had meant to say, "Yes, of course," but the first word had not formed in his throat and the others had tailed off as he had looked down at his feet.

They seemed encased in flesh coloured socks as he moved them.

"Steady!" warned Brown. "Don't try to take in too much all at once. Suitable treatments can speed up biochemical growth to an extraordinary degree these days. But your neural paths are not yet fully restored.

"Let me give a convenient analogy," he continued. "The stretching out into Space of this task force against the Centauri is not unlike the growth of a nervous system. Each wave of ships sent out by the controlling intelligence on Earth could be likened to a group of motor neurons. The radio communication between

the waves is like the sensory nerves which join the groups of motor neurons to those behind and those in front. With the destruction of neurons, as with ships, communication is lost. Until enough time has passed for all the interconnection of neurons to be fully established, the nervous communication within your body will be imperfect if not impossible—in exactly the same way that all the ships will have to be stretched out again towards Centauri before as good a communication system—or any communication at all can be expected over the radio.”

Cliff stared uncomprehendingly at the little man.

Brown smiled. “The human individuality is expressed in material form as a nervous system. Your brain is a knot of nerves at the top of your spinal cord. You retain your basic individuality as long as the brain and spinal cord are maintained in good condition and supplied with food which they can use. Damage to isolated parts of the system growing out of this, whether deliberate or accidental, can be made good these days either by stimulated or natural re-growth. I assure you that you will soon be in excellent working order.”

“Zuurr.” The intended reply, “Thank you,” failed to take proper shape in Cliff’s throat.

“Come on over here,” said Brown.

Cliff swung his legs to the floor, and shambled after the little man. His hands seemed to be swinging at his sides as though his arms had never been broken. He looked at them. They seemed to have some kind of mitt—or had he developed webs between the fingers?

He felt frightened. At once something heaved with an even greater terror into his mind.

“I’m with you,” said Brown, “the whole human race is with you, but you must win this battle on your own.”

Cliff found himself staring at the little man’s screwed up face. Lifting his hands he felt his head bandaged. Full control of his intellect came back to him as he realised an extraordinary thing.

Brown’s lips were not moving; yet he was aware of Brown communicating with him.

He closed his eyes.

“Careful,” warning came from Brown’s soundless voice.

There was another shadow mind, like a reserve, waiting just behind Cliff’s own awareness. He felt that he could summon up the strength of the reserve, just as though it were a second “sub-

conscious mind"—a third part added on to the normal two major divisions of the human brain.

"You are the first," said Brown's soundless communication. It was coming through this third mind which Cliff had acquired. But the girl is waiting now to be awakened."

Cliff opened his eyes, and looked down at his naked body. It was too pink and too heavily muscled to be the body he was used to seeing. He reached out at Brown with his new hands, but the neurologist avoided his poorly coordinated motions.

"It's better than being dead, isn't it?" said Brown aloud, in indignation, and Cliff, grown accustomed to reading the little man's thoughts, halted to fathom the meaning of the words.

"Come over here," said Brown's thought in his head.

He followed Brown to the long line of cupboards. In the first a newt stood motionless on the sand at the bottom of an aquarium. An extra leg grew out of its sleek back. There was a slight scar beside the leg and a bulge beneath the scar. "A transplanted leg," said Brown's thought. "Under it is a piece of the spinal cord of the second newt which provided the leg. The nerves of the cord can be stimulated to grow and interact with the leg within a matter of hours. I did this while you were coming out of the anaesthetic so that you would have a very simple example of what I wish to convey to you. In a similar fashion to this, the animals which I understand you saw working the guns in the bulge were turned into humanised creatures by the addition of the brain and spinal cords of dying men. Even a girl whose mind I failed to save gave her physical parts to be a home for a man's intelligence because there was no other male body in good enough condition for him—and we need his experience."

Cliff's eyes slowly turned, drawn by the cage which had contained the man and woman who had squatted with their hands over their ears and their heads bowed. It gaped empty.

"They were aliens?" He let his mind ask Brown the question.

"Centaurians. Those your ship took. But steady! Hold on to sanity with your old mind in your new body. Can't you see now why the Centaurians could not bear to have Earthmen near them? Earthmen without telepathy have will power in such large amounts that Centaurian minds are swamped. It is the penalty of telepathy. A logical weakness when individuals can be comforted by the entire race if need be."

"You're only guessing," said Cliff.

Brown shrugged immaculate shoulders. "It fits together. The

ships still wait helplessly outside this hulk, because the crews cannot scrape up enough determination to destroy two of their comrades. Wherever these two are put is untouched by enemy fire although everything else is swiftly destroyed. Doesn't that make sense?"

"Maybe it does." Cliff put the question to his third shadow mind, it seemed to squirm away from him before yielding helplessly and admitting the truth in Brown's deductions.

"If," said Brown, "I'd put these two aliens under a total anaesthetic at any time, we would all be dead now, and the ship burst apart. Their terror, helplessly communicated to their friends, kept us alive. Why don't you see what you can do?"

Cliff concentrated. It was as though he had been pushed over a precipice which he would ordinarily have feared to approach, and had found that, contrary to all his training and expectations, he could fly.

He could feel individual aliens cowering before him, sense the resistance of the master of the ship who had been trained to command—and could snap even through that resistance with little more effort than breasting a tape at the end of a race.

Excitement, not effort made him pant.

"Come with me," said Brown. "We must wake up the female of your hybrid species. It's doubtful if you could exist with such power on your own. But a wife will hold you sane. Your alien children will not inherit your Earthly powers, but there will be others like you, dedicated to the tragedy of a dual existence because of man's destiny.

"I do not doubt," Brown continued, "that man is destined to control the Universe, and has his first helpers as from this very hour."

Cliff's excitement faded. He lifted his hands, and they shook with the horror growing inside him. "You're telling me that we—this girl and I—will be monsters, made to bridge the gap between the races, and probably hated by both."

Brown shook his head. He answered aloud so that it was some moments before Cliff's new ears—which were not used to Earth language—could sort out the meaning of the sounds. "I do not think of you as monsters. I sincerely hope that no one else of intelligence will think of you as objects of horror. I like to think of this as the age of true science, with man beginning to understand himself and working with his environment a little better than he has ever done before."

E. R. JAMES

Strong Waters

The whole project was being wrecked by the persistent friendliness of the aliens. Was it possible that there was some method in their madness?

Illustrations by John J. Greengrass

I stared broodingly out of the window of the colony administration hut and watched two of my best men come rolling home, dead drunk, by the light of the silvery moons. They were the sociologists, McGuire and Crawford, who had gone over to the Berangii village in the morning to carry out some field work.

Well, they had carried out field work, all right. They came staggering across the meadow arm in arm, bellowing raucously about a Venusian wench named Nell. Projecting from the left-hand hip pocket of Crawford's leather jerkin was the blunt, corked snout of a Berangii whiskey-flask. They both looked like they had really tied one on.

I was sore. I have nothing against drinking as such, even though I'm personally a teetotaler; I simply don't like the way the stuff tastes. But I *do* object to drinking when it interferes with the building of a colony. And I also object when two staid and respectable sociologists come home yodelling barroom ditties and waking up the entire settlement.

Springing out into the compound, I collared McGuire and Crawford and felt them go jelly-limp in my hands, as if they were happy that somebody else was assuming the burden of keeping them perpendicular. McGuire is six inches taller than I am, and Crawford five inches shorter, so the job of propping them up nearly overbalanced me, and we came within a smidgeon of tumbling to the ground.

I shored them up, leaned them against each other, and gave them my best top-sergeant glare.

"Where have you two ninnies been?"

"In th' Berangii village," Crawford mumbled.

"Interviewing thc chief," McGuire added. "Sociological data. Determining cultural matrices." At least, that's what I *think* he was saying.

I yanked the flask from Crawford's pocket, uncorked it, and took a whiff. It had the remarkable sour-milk odour of the Berangii rotgut. Ignoring Crawford's anguished moan, I upended the flask and contributed about half a litre of native whiskey to the nutrition of the flora underfoot. I tossed the flask into a refuse-bin. I glowered at the weaving and wobbling duo of sociologists.

"Fine pair of scientists you two are! Go out on a research mission, you come home tanked!"

They giggled.

"I don't see anything funny about it! It's past midnight, and you've awakened half the settlement with your damned yawping. Go along, you rumpots! Think you can find your way to bed without help?"

Arm in arm, they staggered across the compound clearing and uncertainly threaded their way into their dormitory hut. Shaking my head, I sadly returned to my own shack. It was, I thought gloomily, a hell of a way to colonise a planet.

I pulled out the roster sheet and inscribed checkmarks next to the names of McGuire and Crawford. Then I added up. Out of the hundred fifty-three members of the colony, forty were now checked off as being dangerously susceptible to the Berangii whiskey. About a dozen others, including me, were ticked off as hard-core teetotallers who weren't likely to succumb.

That left a hundred of my colonists still awaiting their first sip of the sauce. But it wouldn't be long before they had had their chance. The Berangii were wondrously generous with their brew.

In the old days, according to the history tapes, it worked the other way around. The white man arrived, bringing civilisation and

firewater, and lo, the poor sozzled Indian! But here it operated in the other direction. The natives brewed the joy-juice, and the settlers imbibed. The Berangii whiskey was a greater menace to the success of our colony than any quantity of spears or flaming torches. It threatened to paralyse our entire enterprise.

I decided to call a general meeting of the colony the next morning, before work began. The situation was getting out of hand. Before long, there might be only a handful of sober Earthmen left on Berang, with all the rest happily swilling away.

My frame of mind was anything but cheerful just then. If I had been a drinking man, I might have had a wee nip or two. Instead, I consoled myself with a tranquilliser. My fears melted gradually away as I sank into dreamless sleep.

Crawford and McGuire both looked fine at the general meeting at 0800 the next day. They didn't even have the traces of hangovers. The Berangii firewater was heap big medicine; a few slugs provided a gloriously salubrious drunk, with none of the usual consequences the morning after. No wonder my men were taking to it so readily.

I eyed the bunch of them—a hundred fifty-two of Earth's finest, sent here to carve a new world out of the wilderness. I said: "You know why I've called you all together this morning."

Nobody moved. I clamped hands to hips and looked them over sourly. "Last night two more members of this outfit came home drunk. I don't need to mention names. In the last couple of weeks forty of you have gotten lit up on the Berangii brew. If this keeps up, we're finished here. Finished."

I was pausing simply for dramatic effect, and I didn't expect anyone to speak out. But someone did: Mart Romaine, the elongated biochemist who had run the initial tests on the Berangii whiskey and pronounced it fit to drink. Romaine drawled: "You don't drink, Chief, so you don't know how tempting this stuff is. It puts you up on a cloud, and there's no hangover afterward. And the natives keep plying us with flasks of it. I think it makes them feel good to see us happy."

"Anyway," pointed out Dan Campalla, one of the construction engineers, "the Earth stuff is rationed so tight we can't get more than a couple of drops a week. Can you blame us for accepting the Berangii handouts?"

"We don't have any women and we don't have any entertain-

ment," muttered another of the construction men. "So the aliens come along and give us free booze. Chief, we're only human!"

I figured that was about enough by way of interruption. I snapped: "Sure, you're only human! And that's what the aliens are taking advantage of. Can't you goons see that they're fighting a war against us?"

"War?" grunted Dave Wesley, the medic.

"Yeah, *war*. Okay, the Berangii signed a treaty allowing us to build a colony on their planet. And, yeah, they're friendly and co-operative. *Too* co-operative. Don't you see," I shouted, "that their whole idea must be to get us all so drunk we can't build the colony? It's sabotage by sociability, that's what it is! We're three days behind schedule now—and falling further behind every time somebody else decides to knock off and get tanked. Don't you think the aliens know what they're doing? They're greasing the skids for us!"

I watched their faces darken, and I knew that I was rubbing them the wrong way. They *liked* the Berangii, and they especially liked the free Berangii liquor. They didn't see the big picture, the steady slackening of work in the last few weeks.

"Let me wrap this up for today," I said. "You're all grown men and I'm not going to slap any silly curfews or prohibitions on you. I'm just warning you to go easy on the joy-juice. Even if you have to hurt their feelings, learn how to say *no* when they hand you the flask. All clear? I hope so."

I pointed to Rollins, our quartermaster. "Rolly, tonight at mess you can issue a special round of Earth liquor to anyone who's interested. At least that doesn't knock you as silly as the local stuff. But smell their breath first. Anyone who touches the Berangii booze today is counted out tonight." I took a deep breath. "Okay. Regular assignments, as before. Dismissed!"

They straggled off to their daily tasks. Only Rollins remained. The quartermaster was a short, heavy-set fellow who usually wore an amiable lopsided grin. He wasn't grinning now.

"About that order, sir——"

"Special round of liquor tonight, Rolly. Wasn't that clear enough?"

"Clear enough, sir. Only—I thought you ought to know—we're running a bit low on the liquor supply, sir. I checked inventory last night. We have ten more days of Scotch, two weeks of gin, eight days of rye. Lesser supplies of other things."

I chewed my lip for a moment. "Okay, Rolly. I'll take that

into consideration when ordering supplies from Earth. The arrangement for tonight still stands."

"Right sir."

He headed for the mess hall and I started my daily inspection tour. I wasn't surprised at all to learn that our supply of liquor was running out. Storage space is limited on a ship, and it's assumed that the members of a colonising outfit can get along without vast supplies of hooch. If there's room after the tools go aboard, a few cases of refreshments are included in the cargo.

But something unexpected was happening here. Men who didn't want to tangle with the potent local brew were dipping into our small stock of Earth liquor instead, as a sort of compensation. Everybody was drinking a lot more than normal, except the few total abstainers like myself. And when the Earth liquor was gone, the men who had been drinking it would turn to the Berangii brand.

I went about my rounds dolefully. As usual, there were aliens snooping on the premises—friendly little creatures, half the size of a grown man, shaped like small blue barrels with arms and legs and heads. I couldn't very well order them off the colony grounds; this was their planet, after all. But I knew that most of them had brought flasks along and were surreptitiously inviting my men to join them in a tiny nip or two. I wondered how effective my early-morning pep talk was going to be.

I found out. At 1315 hours I paid a visit to the north end of the colony area, where four men under the supervision of Dan Campalla were supposed to be damming a creek. Two of the men were flat on their backs with their legs dangling in the water; the other two were in varying states of alcoholic daze. As for Campalla, he was gamely carrying on alone, digging a channel for the dam. But he was half cocked himself, and the channel he was digging was about 110 degrees out of skew with the creekbed. Empty Berangii flasks lay scattered all round.

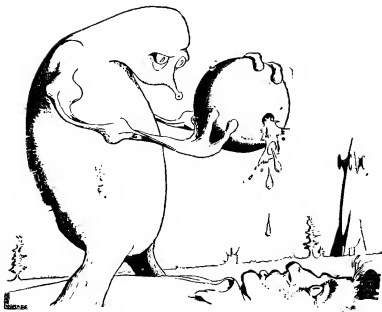
Campalla saw me and stopped digging long enough to salute. "G'd afternoon, sir."

"What the hell's going on here, Campalla?"

"The men had some refreshment during the lunch break. They don't seem fit to work right now."

A flood of mixed obscenities and profanities bubbled up toward the front of my mouth. But before I could get them out, a native stepped out of a clump of tangled shrubbery and extended a brown earthenware flask with one of his skinny double-elbowed arms.

"Earthman boss want a drink?"



"Earthman boss no want a drink," I snapped in my pidgin-Berangii. "Thanks all the same."

The Berangii looked crestfallen. "Drink-stuff make you feel happy-happy. You like."

"I feel happy enough as it is," I muttered darkly, mostly to myself. Campalla had gone back to digging his cockeyed ditch. The alien seemed to be pouting. One of Campalla's workmen came to life long enough to grab the bottle from the Berangii. He took a deep pull and subsided again, wearing an expression of deep content.

I saw I wasn't going to get anywhere by raising a fuss right then. I walked away. The situation, I thought glumly, was getting completely out of hand.

That night, ten of the men had to be carried back to camp. A couple of dozen more were pretty wobbly on their pins. At least thirty others had been imbibing during the day, and showed it to some degree. Close to half the camp had that inebriated glow, and only forty men were interested in the extra ration of Terran liquor that Rollins was handing out.

After mess, there was a two-hour twilight period in which

Berang's big yellow sun slipped below the horizon and the three small moons came dancing upward across the sky. Some of the men organized a soccer game, with an audience of a few dozen Berangii. Others congregated for the nightly poker game in Dormitory B. I locked myself in my office and pounded out my weekly report to Earth.

It wasn't much of a report, let me tell you.

I was concealing the booze problem as best I could, but there was no disguising the fact that we were trailing schedule. The way the colonization system works, a couple of hundred skilled specialists are sent out to get a planet shaped up; once they've organized things, got the plumbing installed and the electricity working, the women are shipped out and the colony is ready to function as a self-perpetuating, self-sufficient enterprise.

Usually the celibate shaping-up period is six months. That gives us time to get things ready and under control. The idea is not to send womenfolk to an alien world until the men have dealt with any unexpected dangers that might have been overlooked by the survey-scout people.

We had been on Berang for seven weeks. Up till three weeks back, the natives had kept their distance, and work had gone along smoothly. But of late there had been plenty of fraternising, and the results, or lack of them, were beginning to show. The lag in operational scheduling was growing from day to day. And, I figured, at this rate it wouldn't be long before we passed a point of no return, when more men were out of commission than were working. It might be years before I could send the okaying signal that would allow the women to come out here.

It might be never.

In my report to Earth I remarked that socialising with the natives was impairing our efficiency somewhat. The "somewhat" made me laugh despite myself. The happy, fun-loving Berangii were quite thoroughly fouling up the works.

The survey report on Berang noted that the natives were unusually friendly. Friendly? Hell, yes! They were efficiently murdering us with hospitality!

Something had to be done. The following morning, after breakfast, I sent for Hansen, the linguistics man. He came out of his tent looking peevish and irritable. Like me, Hansen was a tectotaller.

"I'm working the Berangii verbs through the computer, Chief," he grumbled. "Did you have to interrupt me when——"

"The verbs can wait," I told him. "I want you to accompany me to the Berangii village. I'm going to have a little talk with the native chieftain, and I need you as interpreter."

The Berangii village was about ten miles from our settlement. It was a smallish agglomeration of two-storey mushroom-shaped huts sprouting on both banks of a river. The Berangii don't have a very elaborate culture; they're only a few thousand years into the food-growing and tool-making era, and their folkways are accordingly simple. But they were smart enough, though, to be able to think up this devilish way of driving us off their planet.

Hansen and I squatted crosslegged in front of our parked jeep while I talked, via Hansen, with the Berangii top man. The native was so old that his blue skin had taken on a coppery green tinge, and his knobbly limbs were encrusted with what looked like barnacles. But his round little eyes were beady and full of life.

I said, "It isn't that we don't appreciate your friendliness. The trouble is that we can't get our colony built if my men are drunk all the time."

"It is good to drink," was the stolid reply. "Your men like it."

"I know that. I didn't say it wasn't good to drink; just that it's bad for men who want to get a job done."

"It makes your men happy. Happy men work well."

"It makes them *too* happy," I said. "They don't work when they're too happy."

The Berangii chieftain smiled blandly. "We like Earthmen. We want to help them be happy."

I began to see I wasn't going to get my point across to him at all. I said deliberately, "Do you want me to be happy?"

"Certainly."

"Well, if you want me to be happy, stop giving my men drinks."

"But then *they* will not be happy!" the alien protested.

"That's right," I said. "They won't be happy. But *I'll* be happy."

"You are cruel," the Berangii said. "Why must you deprive your men of happiness?"

I blinked and stared helplessly at Hansen. He simply shrugged. At length I replied, "This is the way Earthmen are. Happiness is bad for us. It—it is unhealthy to be too happy."

"How unfortunate," the old native commented. "I am not sure I believe it. But I feel greatly distressed."

He clapped his eight-fingered hands sharply together, and a younger alien came shuffling out of the clay hut, bearing one of the familiar earthenware flasks. The Berangii chieftain deftly uncorked the flask, tipped it up, and guzzled. I had already noticed that the natives reacted much less drastically to the stuff than our men did; it seemed to have no effect on their equilibrium or coordination, no matter how much they drank, but simply produced a mild relaxation. A one-litre flask, though, was sufficient to lay out the strongest Earthman, while a Berangii was still getting his whistle wet at that point. Obviously the Berangii metabolism could absorb the stuff a lot faster than ours could.

The chieftain finished his swig and grinned happily at Hansen and me. "Now you have some." He jammed the flask practically into my nose. I shivered involuntarily—liquor of any kind has always revolted me—and turned my head away. The alien uttered a string of harsh syllables.

"What's he saying?" I asked.

Hansen smiled unhappily. "He says he pities you because you're such an unhappy man. He says he hopes you'll change your mind and have a drink—with him."

I grimaced. "Thank him for me, anyway. And then start saying goodbye. We aren't making any impression on him at all, dammit. They know what they're up to, all right!"

Matters got no better in the next couple of days. In point of fact, they got a good deal worse. Despite two more stringent lectures, I failed to get the men to abstain; instead, those who had developed a craving for Berangii whiskey—and that was almost half the outfit by now—started to hide away caches of the stuff, and to drink on the sly. It became a common sight to see men sprawled in stupor everywhere in camp. There was no sense trying to impose discipline; I couldn't brig seventy men, and in any event no disciplinary measure short of out-of-hand execution seemed likely to get them back on the wagon.

There was no escaping the fact that men would drink. And the native brew was fearsomely potent. Two good nips and a man seemed to lose all notion of responsibility and balance. Once anyone began drinking the stuff, it was an inevitable corollary that he would go right on down to the bottom of the bottle, and from there to supinity.

It was sabotage, pure and simple. Work on the colony had slowed almost to the zero point. Too many key men were flat on

their backs half the day, singing silly songs. The sober men didn't dare set up to work, for fear one of their lushy comrades might come rolling over and start playing with an electric torch or a welding-gun or something else equally dangerous. By the beginning of the eighth week we had reached a complete standstill.

I had to fight back. Somehow.

I organised a vigilante committee, consisting of the twelve confirmed teetotallers in camp plus about fifteen other men who so far had had enough will power to resist. We posted signs in the Berangii cuniform script telling the aliens that the camp was temporarily closed to visitors. That kept some of them away, though there were always a few slipping in just to see if we really meant it.

We scoured the entire colony area, hunting up concealed treasure-troves of the stuff and emptying the flasks into the latrine. In the first two days of our campaign we must have found five hundred one-litre flasks. But somehow the boys who had become the most steadfast tipplers managed to remain supplied anyway. I imagine the natives were slipping them flasks behind our backs.

I sent for Dave Wesley, our head medic, who was, thank the Lord, one of the teetotallers. "Dave, isn't there any kind of drug you could whip up that would give these men a distaste for alcohol? There must be *something*."

He shrugged. "There are half a dozen reasonably effective drugs that would do the job, Charley." He always called me Charley. We had been together a long time.

"Well," I said, "get with it, then! Cook up a batch and let's start using it."

"Don't you think I've been trying?" he asked sadly. "I've been running tests in the infirmary all week. None of the standard anti-alcohol specifics seem to work worth a damn. I filled Hinkel up with so much Soberall that his eyes bulged—and half an hour later there he was, behind the infirmary with a flask in his hands. Nothing seems to work. Nothing."

I called in Hannebrink, the assistant biochemist. Romaine, the top man in that department, was in no shape to do any quantitative analysis now. I had Hannebrink run some tests on the Berangii stuff, and he reported back to me half an hour later that it consisted of six parts alcohol and four parts miscellaneous impurities—congeners, minerals, fusel oils. Good stiff 120-proof moonshine, in short. Wesley was stumped when he saw Hannebrink's results. All he could figure was that some alien characteristic of the impurities negated the effects of his antialcohol drugs.

Whatever the reason, there didn't seem to be any way to get the men off the sauce. By now the early succubers were totally slappy, the middle batch was just reaching a state of constant irresponsibility, and the rest of us were so worried that *we* were turning to the juice just to ease our nerves. At least, some of us were. I could hardly bear the smell of the stuff, myself. But, then, I never could stand anything alcoholic.

At the end of the eighth week there were only twenty-five men in camp who could still be counted on for anything. The rest were constantly in varying states of inebriation. I was living on a diet of happy-pills myself by this time ; the colony was a grand failure, and as the man in charge I accused myself of all sorts of inadequacies.

Doc Wesley tried to cheer me up. "Hell, Charley, it isn't your fault! There wasn't any way you could have stopped what happened. Don't let yourself brood about it."

I scowled at him. "I'm the colony leader. The colony is not being built on schedule. The colony will *never* be built. At least, not unless we exterminate the aliens first."

"You aren't seriously thinking of——"

"Of course I'm not. But it's an idea, isn't it?" I chuckled harshly and said, "Nice, friendly natives! So anxious to keep us in good spirits!"

"That's a miserable pun," Wesley said.

"It wasn't meant as a pun." I ground my fist into my chin for a minute or so without speaking. It was broad daylight, and I should have been hearing the sounds of electronic saws whining, supersonic drills drilling, hammers hammering. Instead all I heard was the sound of snoring, and an occasional bawdy ballad being sung far off-key.

"I ought to notify Earth," I said morosely. "All I have to do is send out a message telling them we're licked, and they'll pick us up and take us home. But I don't want to send that message. I don't want to admit I'm beaten. Besides, I *can't* send any messages until Sparks sobers up."

"I hate to say this," Wesley murmured, "but you *are* beaten, Charley. There can't ever be a Terran colony on this planet, not unless you can manage to breed a race of abstainers. Because as long as those little grinning blue devils keep brewing their stuff and handing it out free, no colonising is possible here. And——"

"No!" I banged my fist down hard on the desk. "I'm not licked! Even if I have to build the damn colony all by myself, I'll——"

"Charley, be rational. There isn't any solution except to pick up and go somewhere else."

I shook my head vigorously. "No, Doc. I won't give up. I've got an idea. Go find Hansen for me. I'm going to have another talk with that Berangii chieftain."

While the Doc headed for the linguistics shack to hunt up Hansen, I trotted over to the mess hall. Rollins was sprawled out snoring on the kitchen floor, and I stepped over his prostrate form and went on into the supply stores.

We still had a little Terran liquor in the cabinets. I found an empty gallon jug and washed it out. Then I unlocked the liquor cabinets and drew from our dwindling supplies a bottle of Scotch, one of bourbon, and one of gin. Coolly I poured a pint of each liquor into the gallon jug, corked it, and shook the whole mess up. Nodding in satisfaction, I locked up the liquor cabinets again and went outside, taking the gallon jug with me.

Doc Wesley was out there, with Hansen. Hansen wasn't in very good shape.

"That's the way I found him," the Doc said apologetically. "Flat on his back in the linguistics hut, with notebooks scattered all over the place."

Hansen was reeling and writhing. His breath was foul. I said to him, "I thought you didn't drink."

"Jush had a li'l bit," he muttered thickly. "Got tired of all that thinkin' and figurin'. Bad for the brain to think too much. Jush had a li'l bit to drink."

I took a deep breath and counted to two. There was no percentage in getting angry, not at this late hour. Wesley and I propped up the staggering Hansen, who protested mildly, and we dragged him along to the nearest jeep. An engineer named Marshall was asleep behind the jeep's wheel. I lifted him out, spread him out on the ground, and got behind the wheel myself, while Wesley poured Hansen into the jeep's back seat.

I drove out the camp's main exit, moving slowly to keep from running over any of the sleeping beauties snoring in the roadway. I drove rapidly down the crude unpaved road to the Berangii village. The day was slightly overcast and muggy, with dark-edged clouds looming up over the distant hills. The Berangii had said something about a rainy season approaching. These evidently were the harbingers.

I parked in front of the chieftain's hut and the old alien came

waddling out to greet us. We clambered out of the jeep and arranged ourselves in the crosslegged pow-wow posture. It wasn't easy to get Hansen arranged properly, believe me.

Poking the linguist in the ribs, I said, "Tell him we've come here to share happiness with him."

Hansen muttered something in Berangii. The chieftain caught the meaning and grinned cheerfully. He started to clap his hands to call his cupbearer, but I held up one hand to stop him, indicating the gallon jug of scrambled spirits I had brought along.

"Tell him," I instructed Hansen, "that we've brought our own drinkables this time. That we want him to sample *our* brew, now."

Hansen looked doubtful, but he managed to convey the concept. The chieftain nodded approvingly. I laid out four plastic cups and carefully poured from the gallon jug, taking care to give the chieftain a whopping big helping. For the sake of appearances I poured some for Wesley, Hansen, and myself as well.

We raised our glasses. The smell of the stuff nearly sickened me; I touched it to my lips, let a drop or two enter my mouth, and put the glass down with most of its contents intact. Wesley, I saw, did the same thing. As for Hansen, he was too drunk to know what he was doing, so he swallowed the entire shot. He blinked and stared queerly at me, but made no comment.

I glanced at the old chief. He tipped his head back and poured the entire six-ounce glassful down his gullet like so much fruit juice.

"What is that stuff?" Wesley asked, *sotto voce*, in English.

"An old recipe I learned in my youth," I replied. "Equal parts of Scotch, bourbon, and gin. Maybe it'll persuade the chief to keep his people away from us in the future."

The old Berangii put down his glass and said something.

"Translate," I commanded Hansen.

Hansen giggled. "He says it's good. He says he wants some more."

We rode back to camp half an hour later under a rapidly darkening sky, feeling utterly flattened. The experiment had been a fiasco.

Wesley and I hadn't touched any of the vile mixture, and Hansen had passed out after his second round. But the old chief had been delighted with the concoction. With many chortled alien *prosits* and *skoals*, he had gulped virtually the entire gallon, and, so far as our limited Berangii vocabularies could determine, he was still hoping for more when the supply was all gone.

"I hope the old brigand has the granddaddy of all hangovers tomorrow," I growled, clinging tight to the wheel in order to negotiate some of the road's trickier bumps.

"He won't," Wesley said. "It's something about the alien metabolism. They burn up alcohol as soon as it goes down their throats, it seems. They don't ever get very drunk, no matter how much or what gets into them."

Hansen was snoring peacefully in the back of the jeep. The sky was almost black, now. A muggy smog had wrapped itself over the countryside, and a plague of little gnatlike insects had descended. They bit. Rain seemed imminent.

"I thought perhaps our liquor would knock them out the way theirs does us," I said. "But I guess I didn't make my point. I guess there isn't any way of keeping the aliens away from us with their damned hospitality."

"So what now? Do we wake up Sparks and tell Earth we're giving up?"

"I don't know," I said wearily. "I wish I understood why this had to happen to me. To my colony. Everything was going along so well, and then *this* business had to start! It's enough to make a man think that——"

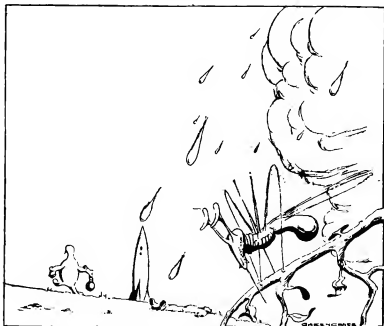
"Look out," Wesley said. "Here comes the rain."

And the rain came.

It dropped down out of the sky as if someone were emptying a bucket over us. We were drenched within seconds. It was a warm rain, and did nothing to alleviate the general mugginess that had prevailed all day. I jammed down on the accelerator and pushed the jeep along as fast as I dared, considering the state of the road. We arrived at camp. My vigilante committee were running around wildly in the rain, dragging the slumbering drunks into the dormitory huts. By now more than a hundred of my outfit didn't even have the sense to come in out of the rain, it seemed.

I parked the jeep in the middle of the compound and jerked a thumb at Hansen. "Take him indoors," I said to Doc Wesley. "I'm going to help get the rest of these noodleheads under shelter."

The rain seemed to go on forever. It came pelting down out of an eternally gray sky, turning the ground to mush, rattling maddeningly on the tin roofs of the crude huts that we were supposed to be replacing with permanent colony buildings, turning the compound into a miniature lake. It never seemed to slacken up. Someone had



turned on the warm-water faucet up there, and had forgotten to turn it off.

For a day or so there was no way of getting whiskey, and so some of the men sobered up a little. They remained indoors, staring out at the rain. But on the second day a delegation of Berangii came to visit us, to find out how we were bearing up under the downpour. I asked them, by way of Hansen, how long we could expect the rain to keep up.

"Two or three triple-moons," was the answer.

The moons of Berang met in conjunction every ten days. That meant we were in for twenty or thirty days of rain. Swell, I thought.

I was getting closer and closer to the moment when I would send out the pickup call to Earth, but I was too stubborn to admit I was beaten. Besides, I had some fool idea that the men would swear off the stuff voluntarily, now that they were deprived of it by the rain.

Deprived? Oh, sure. No sooner did the Berangii visitors leave than I discovered a more-than normal gaiety among the men. The aliens had quietly distributed about fifty bottles of booze. It was the same old story all over again, that night. Finally I had to draw up a

chart of patrol assignments, and Wesley, Hannebrink, and a few others, including myself, roamed the colony grounds with flashlights, finding men who had strayed out into the rain and shepherding them back to their huts.

And then, the next day, the fever began.

Hannebrink was the first to report it. Doc Wesley and I were sitting in the medic's office playing our umpteenth hand of gin rummy when the skinny biochemist entered. At first I thought that he had finally broken down and taken a few drinks, because he was walking unsteadily. But then I saw that his face was flushed and puffy-looking.

He said, "Doc, I don't feel so good."

And then he fell forward flat on his face.

We hauled him up on the examining table and peeled his rain-soaked clothes off him, and Wesley gave him a good look-see. He discovered a fever of 103 and still rising, along with local inflammation of the digestive tract, facial swellings, and a mild skin rash covering most of his body. We got him off to bed in the infirmary. Wesley guessed that the fever was some side effect of the muggy weather and the rain and the gnats.

Fine, I thought. Now we'll all come down with some alien kind of malaria.

"We'd better check the men," Doc suggested. "Find out if we have an epidemic on our hands."

He packed up his medical kit and we slogged across the mucky compound to the dormitories. The sound of raucous singing greeted us. We entered Dormitory A and found Crawford, McGuire, Romaine, and a couple of others waving bottles around lustily and singing space-ballads. A few of the others lay on their cots, eyes closed. The place reeked. Evidently the Berangii had paid a recent visit.

None of them seemed to have the external symptoms, but they all felt feverish. Doc did some temperature-taking and found that the boys who were asleep all had fevers ranging from 100 to a torrid 103.8.

"Maybe the rash and swellings come later," I said.

"Could be." Doc had corralled McGuire and was taking his temperature. "106.6," he reported. "On its way up. You'd better get off your feet, McGuire."

McGuire nodded drunkenly and tottered off to a vacant cot. Doc and I exchanged worried glances. It was an epidemic, all right. We were in trouble.

I made a head-count and discovered that there were just fifteen sober men in camp, including the Doc and myself. Three of the fifteen had some medical training. Doc dug out his entire supply of fever thermometers and we made the rounds, taking temperatures. The rain continued to thump down. The humidity hovered stickily at 99 or so.

The job took almost an hour, and we met later in the Doc's office to compare notes. We ran down the entire roster. There wasn't a man in the dorms whose temperature was normal. Most of them were running two or three degrees of fever.

But nobody but Hannebrink had the swellings and rash. I wondered if Hannebrink had caught something special.

"We'd better take our own temperatures," the Doc said.

We did. The results were not surprising. We all had some fever, the Doc and myself included. Top man was Martell, the geologist, who had 101. The rest of us were still under 100, but above 98.6.

Doc Wesley squinted at Martell. "Come over here, Sam," he said to the pudgy geologist. Martell walked over, and the Doc looked closely and nodded. "Okay, Sam, get to bed. You've got it, whatever it is."

I peered and saw the beginnings of a rash on Martell's neck. His eyes looked puffy, too.

During the next four hours the epidemic spread. Doc was trying his whole repertoire of antibiotics, but nothing was taking effect, and one by one the fifteen of us were falling victim to the thing Hannebrink had contracted. I had my hands full, trying to keep things running smoothly with the maddening rain cascading down and with a hundred and fifty-odd sick men in camp.

Strangely, none of the drunks were developing the rash and the swellings. They all had some fever, but nothing more. While the rest of us were catching it one at a time. After Martell it was Kennedy, and after him Michaelson. High fever, blotchy spots on the skin, facial swellings.

Doc Wesley kept me so full of drugs I felt like a pin-cushion, but I knew my turn was coming despite his care. I was developing the chills, which meant my temperature was going up.

The situation was critical. A hundred and thirty men with low fever, all of them groggy from a three-week binge, and a handful of sober men coming down with some unknown alien plague. We needed help. We couldn't carry on any longer. I stared at Doc Wesley and

thought I saw the telltale blotches at last popping out on his skin.

"Have to call Earth," I said. I realised vaguely that my words were coming out as an indistinct mumble. "Send for a pickup ship. This damned planet has us beat."

It was a hundred yards from the medic shack to the signal hut. I got as far as the front door of Doc Wesley's office. A sudden wave of dizziness swept over me and my feet tried to drift to the ceiling. "Got to call Earth," I muttered, as somebody bent over me. Then everything blurred. Miles away, I heard a voice say, "Now the Chief's got it too!"

Later, a voice said, "He's waking up," and I realised I was. I opened my eyes after a considerable struggle; the lids seemed pasted down.

My room was crowded. Romaine was there, and Crawford, and an assistant medic named Donovan. All three looked fairly sober, which surprised me. They had been three of the heaviest drinkers in the camp.

I smelled liquor fumes. There was an odd taste in my mouth. The rain was still beating drumtaps on the roof of my hut, which told me I hadn't been asleep as long as it seemed.

"How long was I out?" I asked.

"Ten days," Donovan said. "But your fever seems to be broken now. You'll be okay."

I tried to sit up, and realised I was weaker than I thought. "Where's Doc Wesley?"

"Still in sick bay," said Romaine. "He came down with the disease the day after you did. But he's responding pretty well to treatment. He'll recover."

"Treatment?" I said, bewildered. "What kind of treatment? What's been going on around here, anyway?"

"You had a rough case of Berangii dysentery, Chief," Crawford explained. "You and fourteen others."

My head was beginning to clear a little. "How about the pickup ship from Earth? When does it get here?"

They looked blank. "What pickup ship?" Crawford asked.

I propped myself up on my elbows. "The last thing I ordered before I passed out was a message to be sent to Earth. We can't stay here any more. This planet obviously isn't suitable for colonisation."

"Why not?" Romaine asked innocently.

"Because," I said, "this dysentery, or whatever you called it,

damn near killed us all. And there's also the matter of the native whiskey."

"Do you see anyone drunk now?" Romaine asked. "Am I drunk? I've been drinking, but am I drunk?"

"No," I admitted grudgingly. "But——"

"And nobody died of the epidemic, either," Donovan added. "We almost lost Hannebrink, but that was only because he kept up-chucking the medicine. We had the same trouble with you, Chief, for a while. But you've been taking it like a lamb for the last five days."

"What medicine?"

Donovan smiled and picked up a half-empty flask of Berangii whiskey. He held it out. "This," he said. "This is your medicine."

"This?" I repeated. "Medicine?"

Donovan nodded. "We've been working out the answer all week, ever since we sobered up. Romaine and I have just about figured it out by now."

My voice was bitter. "Suppose you let *me* in on it."

Donovan poured himself a goodly shot of the native whiskey before he spoke. "You see, Chief, about a day after we all started getting feverish, we sobered up. That's when we found you and Doc and all the other teetotallers in sick-bay, with 103-degree fevers and skin rashes. The rest of us, those who'd been drinking the stuff, only had a light fever lasting overnight, and after that we felt fine."

"We started to work things out," Romaine said. "Hansen helped us when he told us that in the Berangii language *happy* and *healthy* are synonymous. When the aliens were telling us they wanted us to be happy, they really meant they were worried about our health."

"You mean," I said in a tight voice, "that this godawful rotgut has curative powers?"

"I'm afraid it has," Donovan said. "The way it works is this: during the rainy season on Berang, the gnats breed. The gnats carry protozoans which they transmit to other beings when they bite them. When the protozoans get into a mammalian digestive tract, they insist on being fed. And their food is largely alcohol plus the congeners of the Berangii whiskey."

"Go on," I said cavernously.

"These protozoans take up residence in your body and proceed to decompose alcohol into short-chain fatty acids with a high energy

yield. The Berangii know all about this, because they have these critters living in them all the time. So they keep them fed. They gulp the whiskey down, the protozoans go to work on it, and the Berangii gain energy from the digestive process. It's really a symbiotic relationship. But when the protozoans don't get fed properly, they foul up the body's metabolism, resulting in the sort of thing you and Doc and the other non-drinkers had. The rest of us had a mild fever caused by the entry of the protozoans into our systems. Overnight they burned up our excess alcohol accumulation and we sobered up. Now, provided we keep the little beasties stoked with their favourite fuel, we don't have to worry any more."

I coughed. "Provided—you mean—that is, you have to keep on drinking the stuff?"

"About a litre a day," Romaine said cheerfully. "But the energy output is really tremendous. We *can't* get drunk, because our symbiotes absorb the alcohol as fast as we pour it into ourselves. We just get pleasantly un-tense. And we have so much pep that we've been at work on the colony, rain and all, and we've caught up to the schedule while you were sick."

"Tell me," I said slowly. "One last thing. Just how did you—uh—cure me?"

"By opening your mouth and pouring the stuff down your throat," Donovan said. "It was the only way. And don't think it was easy to get you to keep it down, either."

I sank back limply and closed my eyes, and listened to the rhythmic thudding of the rain.

Funny, I thought. The aliens *had* been trying to help us, after all. They hadn't wanted us to get drunk; they just wanted us to have some of their medicine handy when the rainy season began and the fever struck. It wasn't their fault that humans didn't have the proper metabolic tolerance for a drink as potent as that.

But the metabolism of my men had altered. We could go ahead with our colony. But——

"There doesn't happen to be a cure for this protozoa thing, does there?" I asked hesitantly. I saw their faces, and I knew what the answer was. If we got rid of our symbiotes, the men would no longer have any defence against the Berangii whiskey. And next year, when the rainy season came again, the teetotallers would get fever, the others would be hopelessly drunk. It was plain: no protozoa, no colony.

But the protozoa had to be kept nourished. And there was only one form of nourishment they liked.

Donovan said: "You'll just have to learn how to drink, Chief. It's the only way to survive on Berang. A dose every four hours is the recommended prescription." He looked at his watch. "And the next dose is due right now."

I waited while the foul-smelling fluid gurgled into a glass. Reluctantly, I accepted the glass, stared bleakly into its depths, moistened my lips. Donovan, Crawford, and Romaine waited with folded hands.

Maybe the protozoa within me loved this stuff, but I doubted if I ever would. I sighed. Thirty-six years of staunch teetotaling was about to go by the board in the name of Terran extraterrestrial colonisation. I had worked too hard to give up this colony now. Berang was my world, for better or for worse.

"Cheers," I said in a dismal voice, and raised the glass to my lips.

ROBERT SILVERBERG

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WALTER WILLIS writes for you—

Does this plot seem familiar? In the far future, Earth has been enslaved by an alien race with invincible psionic ability. In course of time a mutant strain with similar ability develops in humanity but unhappily the aliens have a detector of psionic radiation and orders are given for the execution of the mutants. The human servants, at the cost of their own lives, disobey the order and send the young mutants off in a spaceship which eventually lands on a distant planet peopled by a kindly but backward race. The human mutants thrive, but eventually their increased psionic powers again register on the alien detection apparatus and an expedition is sent to exterminate them. They are concealed by their loyal protectors, but the aliens are able to transmit a ray which paralyses the human psionic functions. They live and multiply, but are no longer a threat until another race persecuted by the aliens seeks refuge on the same planet. They enter into a symbiotic relationship with the humans and are able to remove the psionic block; together the new allies reconquer Earth, and the backward race is rewarded. Well, of course, this is Snow White and the Seven Dwarfs, and the fact that nowadays it is

quite an acceptable science fiction plot shows how vague the dividing line has become between science fiction and fantasy. Drawing this line has been a sort of game in the fan world for many years, the most recent attempt being in a scholarly and well-written survey by George Locke of imaginative novels published before the first world war, and it reminds me of nothing so much as the children's party game where you are blindfolded and told to pin the tail on a drawing of a donkey. It's difficult to do, and you haven't got much when you've finished.


However, making the attempt on present-day science fiction does elicit one interesting fact, that much of to-day's science fiction isn't science fiction at all, but fairy stories in which charms, spells and magic have been replaced by pseudo-scientific gobbledygook about spacewarps, forcefields and psionics. I like a good fairy story as well as anyone, but I'd like some real science fiction too, with some of the thrill and achievement of real scientific discovery in it. They say this is what Russian science fiction aims at, and if so there might be a lesson for us there. The trouble, of course, is that too few of our authors have any

intimate knowledge of scientific research and too few of our scientific workers have enough literary talent to produce the polished writing required to-day. It seems that more collaborations are indicated.

But even if young man with thrilling scientific idea meets young man with writing ability, there is still the problem of combining their properties into a story. This process seems to be a mystery to most people, judging from the fact that the question authors are most often asked is "How on earth do you think of your plots?" Well, I'll tell you it's just a trick, an attitude of mind, and anybody can acquire it. I've been present at the conception of dozens of stories and all you need is a couple of friends with lively minds. If you're completely stuck just visualise a situation, any situation, and kick the components around. Twist them, invert them, extrapolate them or turn them inside out. I remember one afternoon James White, Bob Shaw and I just for fun took the simplest situation we could think of, a man sitting on a rock, and by asking ourselves questions about it—what was he waiting for, how long had he been there, was the rock really a rock or could it be alive ("Boy meets rock"), why *that* rock and so on—we had five separate plots after a couple of hours, two of which eventually sold. Of course it's even easier if you've got even the smallest original idea. Once you acquire the habit, you can see a whole story in the slightest thing. For instance, Eric Frank Russell told me he got a plot

for a detective story through not being able to close the boot on his car. It was about a man who carried out a carefully planned murder and carried the body in a trunk in the boot of his car to bury the lot in the woods. He stopped for petrol on the way and the garage attendant, noticing that the rear numberplate couldn't be seen because the boot wouldn't close down, thoughtfully chalked the car number on the trunk. Then I remember once I was coming home from work when I noticed that all the little girls seemed to have started playing with curious little three-dimensional crosses called jacks. I asked at a shop for some for my own daughter and they told me the factory was working overtime, unable to meet the sudden demand. It occurred to me to wonder who told children all to start playing the same game at the same time the way they do. Ken Bulmer was staying with me at the time and we worked out a story about aliens who were stranded on Earth because a small but delicately machined part was broken in their spaceship drive. Their problem is to get this part made without revealing themselves to agents of another race who are on Earth looking for them. They solve it by inventing a children's game the rules of which are carefully calculated to ensure that maximum mass production efficiency will produce a toy with the properties they want, so all they have to do is buy one in a shop. And that explains why in a recent story a part of an alien spaceship happened to be called a Wyllys.

SCIENTIFILM PREVIEW



News and Advance Film Reviews Direct from Hollywood's

FORREST J. ACKERMAN

If memory serves me right—I am writing from New York, 3,000 miles from my Hollywood files—**THE 7TH VOYAGE OF SINBAD** is also the 7th excursion into fantasy animation for Ray Harryhausen. From **KING KONG** fan of 20 years ago to First today in his profession, I have watched (with many of the rest of you) the incomparable Harryhausen grow from strength to strength, from **MIGHTY JOE YOUNG** through **THE BEAST FROM 20,000 FATHOMS**, **IT CAME FROM BENEATH THE SEA**, **ATTACK OF THE FLYING SAUCERS**, **THE ANIMAL WORLD** and **20 MILLION MILES TO EARTH** to his masterpiece, **SINBAD**. I saw this previewed with Ray Bradbury and Larry Maddock, and as we were congratulating Harryhausen and director Nathan Juran afterwards, Ray was asked, "What are you going to do to top it?" May I suggest to imaginative producer Charles Schnee that we are now ready for A. Merritt's **METAL MONSTER**, S. Fowler Wright's **THE WORLD BELOW**?

The story: Prince Sinbad, en route home to Bagdad by sea with Princess Parisa to

whom he is engaged, stops at the island of Colossa. In search of food, Sinbad ventures inland with two members of the crew. They discover huge hooved footprints. Shortly thereafter they hear a thunderous bellowing, and a man racing for his life emerges from the mouth of a cave carved in the shape of a semi-human face in the side of a mountain. It is our introduction to Sokurah, the evil magician—and a moment later we meet a Cyclops. Fifty feet tall, the creature is, of course, classically, one-eyed; but, that aside, Harryhausen has departed from the usual humanoid concept to make the monster a kind of uni-horned cousin of the Ymir from Venus, with the hairy trunk of a Satyr.

Sinbad, Sokurah and the sailors are all saved from the Cyclops when the magician pulls the Arabian Nights equivalent of a rabbit out of the hat and summons a Genie from a magic lamp. The Genie throws up what was later, in the 21st century, to be known as a force screen, but in the hasty exodus from Colossa the magic lamp is left behind. It is Sokurah's passion to retrieve his lost lamp that is the motivating factor

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Strong Waters	

Name and Address :

Mr. C. P. Senescall of Pontypool in Monmouthshire wins the One Guinea Prize offered in Nebula No. 35. The final result of the poll on the stories in that issue was

- | | |
|---|-------|
| 1. DARK TALISMAN
By James White | 22.2% |
| 2. WISDOM OF THE
GODS (Pt. 4)
By Kenneth Bulmer | 21.4% |
| 3. THE CAPTAIN'S
DOG
By E. C. Tubb | 19.8% |
| 4. UNDISCOVERED
COUNTRY
By William F. Temple | 18.3% |
| 4. BITTER END
By Eric Frank Russell | 18.3% |

The result of the poll on the stories in this issue will appear in Nebula No. 41.

behind Sinbad's further adventures.

When Sokurah can't get anywhere with outright requests to take him back to the island, he resorts to some black magic blackmail, making an Incredible Shrunken Princess out of Kathryn Grant. Sinbad is informed that if he ever expects a life-size bride, he is going to have to get Sokurah back to Colossa to pick up the shell of a Roc, the most potent part of the stature-returning formula. Meanwhile, Sinbad carries his beloved princess around in a jewel box.

Back at the island, the adventures are endless, nor would we ever want them to end. In colour and consummate artistry we are treated to the spectacle of the hatching of the two-headed Roc chick, the fight with the gigantic enraged Mother Roc, the battle with and blinding of and cliff-fall death of a Cyclops, and the encounter with the 500-foot flame-breathing dragon. All these are breath-raising and hair-taking.

And in between is much beauty, visual delight for the eye not only in the elfin form of Mrs. Bing Crosby (Princess Parisa), but the interior of the Genie's lamp as seen through the eyes of this little Miss Thomasino Thumb, and the glittering treasure-trove of the first Cyclops (there's another giant One-Eye nearby), and the multicoloured opulence of the Sultan's palace. In the palace the magician transforms a woman into a serpent-girl, who does a sinuous, writhing dance supported on a snake's tail of human proportions.

GUIDED MISSIVES

LETTERS TO
THE EDITOR

Dear Mr. Hamilton,

I am a human, so it was in chastened mood that I finished the October issue of NEBULA. What a horrible lot we are! Seen through the eyes of Ted Tubb in "The Captain's Dog", the inhabitants of Sol III are a brutal, sadistic bunch of beasts. This is Tubb in his old "how I hate the human race" mood. He must be an alien; no-one could despise his own species as much as this.

Russell's hero was hardly better—he ate his companion—and as for James White in "Dark Talisman"—well, I wouldn't treat even my android the way he disposed of his protagonist. Why, even William Temple showed humanity as a grasping and thoughtless lot, and to round off a cheerful, optimistic issue, Kenneth Bulmer started the last instalment of his serial by having his hero well and truly beaten up.

The stories weren't bad of their kind, but was it necessary for all of them to show homo sapiens in such a jaundiced light? We're not that bad.

Or are you an alien too?

LEONARD J. TAPPER,

Salisbury,

Wilts, England.

* No, Leonard, my naturalisation papers have just come through.

Dear Ed,

For some time now I have intended to write to you concerning the outlook of the science fiction authors who write for NEBULA, and indeed for all other current science fiction magazines. At the moment, I think there is a need for a greater element of realism to be introduced into their story material.

Before space travel can become a reality, it is necessary to postulate a synthesis of West European culture in which the wrangling over language, religion, political parties, system of government, competition for world markets, etc., are relegated to the background of our lives. This will put real space travel to the planets into the distant future, as I am sure that mankind is in no position morally or spiritually, to enter his true kingdom at the moment.

G. A. COOPER.

Derby,

England.

* You and I may be sure of this, Mr. Cooper, but I doubt if we can convince mankind.

QUESTION SPOT

A new department in which readers' scientific questions are answered by one of our "photo feature" team of experts.

Dear Sir,

I have some information about

an amateur chemist in Somerset, named Andrew Crosse. In 1857 he was experimenting with electricity and certain chemicals, when he noticed insects of the mite family forming in the apparatus.

The experiment was repeated by another amateur, who took great care to ensure that no mites or their eggs were present beforehand, and yet more of them were created.

This is all the information I have. Could you please give me your comments on it, or suggest where more specific information would be obtained.

PRIVATE J. S. ROWED,
B.F.P.O. 53,
Cyprus.

* Dr. A. E. Roy, B.Sc., Ph.D., F.R.A.S., F.B.I.S., says: Andrew Crosse, who died in 1855, first published the results of the experiments that brought him notoriety and abuse in 1837 and 1838. One paper is in the "Transactions of the London Electrical Society" 1838, the other is in the "Annals of Electricity" October, 1836-October, 1837. Most of his succeeding work has unfortunately been lost to science.

Briefly, his experiments seemed to show that under certain conditions it was possible to create life from dead matter. Using a solution of silicate of potash which he allowed to seep through a porous piece of oxide of iron, he tried to obtain crystals by keeping the piece of stone electrified. After many days he found to his astonishment that insects of the species *Acarus* evolved on the stone surface. The first signs were small, whitish blobs. These sent out filaments and gradually formed into insects that moved about.

Crosse repeated and refined his experiments, seeking to exclude any possibility of contamination but the acari invariably appeared. The other amateur was probably Weeks, of Sandwich, who went to extreme lengths to make sure that no life was present when his experiments began. Yet he also obtained acari, after about 18 months of electrification.

The late Commander R. T. Gould, writing in his book "Oddities", says that an authority upon acari, Dr. A. C. Oudemans, informed him that, in his opinion, Crosse's Acari were the common *Clycophagus domesticus* which is very tenacious of life and capable of getting into tins which appear to be hermetically sealed. This may be so, but one can't help feeling that Crosse's work should be repeated under modern laboratory conditions to clinch the matter, one way or the other.

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that the Sun's equator is not quite parallel to the ecliptic, the path of the Earth against the stellar background.

Spots often occur in pairs, showing opposite magnetic polarity and rotation, the intense magnetic fields rivalling the strongest produced artificially on Earth. Most spots are short-lived, disappearing after a few solar revolutions. Spoerer discovered that the first spots of a new cycle appear about 25° N. and S. of the Sun's equator. As the numbers increase, new spots are formed in lower latitudes (i.e. on the equatorial side) until at sunspot maximum, spots are appearing in large numbers near the equator.

Most astronomers agree that sunspots are outward evidence of inward turbulence in the Sun and that a sunspot pair represents possibly the broken ends of a gigantic gaseous vortex within which gas is ascending upward and outward. Whatever their cause, sunspots can affect daily life on Earth, playing havoc with radio communications.

The Sun's atmosphere consists of those parts of the Sun above the photosphere, the name given to the luminous opaque surface of the Sun. The solar atmosphere consists of hot, transparent gases, mostly composed of hydrogen and helium, but with traces of many of the familiar terrestrial elements, all in a gaseous state at a temperature of 6,000°C. From this atmosphere, extending upwards for some thousands of miles, shoot great masses of luminous gas called prominences at velocities of hundreds of miles a second. In addition, there is an outer envelope of very rarefied gas, extending often to a distance of one million miles, called the corona.

These phenomena are visible without special equipment during solar eclipses, when the Moon's disc hides the Sun's brilliant photosphere and allows the relatively faint atmosphere to be seen. Nowadays, by screening off the photosphere, movies have been made of these solar phenomena showing in detail the luminous filaments of gas darting out of and into the Sun's surface. In addition, the spectroheliograph, a device using the principle of the spectroscope, is used to photograph the Sun's surface in light of any desired wave-length. If that wave-length is that of one of the lines in a particular element's spectrum, then the distribution of that element, say calcium, in the solar atmosphere can be measured from the spectroheliogram.

All terrestrial sources of energy, apart from atomic energy, are due directly or indirectly to the Sun's outpourings of radiation for the past 5,000,000,000 years so that the source of this radiation is important to mankind. Since life as we know it exists between narrow margins of temperature, and from geological evidence such life has existed on Earth for at least 1,000,000,000 years, the Sun's output cannot have changed appreciably in that time. What enables the Sun to emit power of the order of half a million, million, million, million horse-power or a rate of radiation of 80,000 H.P. per square yard of its surface?

The answer was given independently in 1938 by Dr. Hans Bethe and Dr. Carl von Weizaecker. By that year, physicists, advancing to the threshold of the atomic age, had realised that only in the nucleus of the atom lay sufficient stores of energy to keep the stars bright. Bethe and von Weizaecker, using the mathematical model of the Sun built by Sir Arthur Eddington earlier in the century, showed that at the pressures and temperatures experienced at the Sun's centre, hydrogen, using carbon and nitrogen as intermediaries, could be fused into helium with a conversion of mass into radiation according to Einstein's famous equation. Each second, 4,000,000 tons of the Sun's mass are destroyed in this way. The transformation of the Sun's core to helium will continue for another 10,000,000,000 years, giving out a steady supply of energy to the Solar System. The tapping of this supply by the power-hungry technologies of Earth may augment the world's energy-supplies in future years.



Another scan
by
cape1736

